Index to Contents, February, 1942

(The Annual Index to Contents appears at the back of the December issue each year)

Wartime Activities of Municipalities

Priorities for Municipal Needs . . . 5
Defense Trucking Street Widened . . . 15
Functioning of Civilian-Defense Office . . . 35
Making Civilian Defense Effective Locally . . . 37
A Message to Citizens of Wellington . . . 39
Wartime Message to Mayors and Others . . . 43
Our Children in Wartime . . . 50
Walking Facilities for Post-War England . . . 53
Glamour Without Chromium . . . 55
Air-Raid Shelters . . . 55
Keeping Our Heads on the Alien Enemy Problem . . . 56
Recreation for War Workers . . . 60
Charlie Chaplin in "The Great Dictator" . . . 60
When Thousands of New Workers Flock into a City . . . 64
Defense Projects Solicited and Serviced by Georgia City . . . 64
New Utilities Built; City Limits Extended . . . 65
Municipal Services of Mobile Overtaxed by Defense Activities . . . 66
Preparedness for Post-War Urban Redevelopment . . . 67
Prostitution—Major Wartime Threat . . . 71
Life's Lighter Side, Wartime Britain . . . 73
Sirens for Air Raid . . . 75
On Camouflage and Luminous Paints . . . 77
Keeping Glass from Flying . . . 79
Wartime Safeguards for Water Supplies . . . 81
The Traffic of Blood, Sweat, Tears . . . 87
Street Lighting in Wartime a Public Responsibility . . . 93
Light War-Traffic Streets . . . 97
A Scientist on World Peace . . . 99
Abandoned Car Rails Dug Up for Defense . . . 101
Have You an Idle Factory in Your Town? . . . 103
Quick Chlorination for Emergency . . . 119
How to Save Rubber for Use in War . . . 125

• • • ——

Air-Raid Protection
War Wisdom . . . 7
Air-Raid Shelters . . . 55
Air-Raid Instructions to Motorists . . . 61
New Siren Gives 33 Blasts per Minute . . . 75
Sirens by City Districts . . . 75
That Air-Raid Siren . . . 75
Large Vehicle-Siren . . . 75
Gasoline-Driven Siren . . . 75
On Camouflage and Luminous Paints . . . 77
Keeping Glass from Flying . . . 79

Airports and Aviation
Snow Melter on Airport Runways . . . 54
How Airports Affect Adjacent Property Values . . . 101

Bridges
Bridge Repaved without Traffic Halt . . . 15

Business and Industrial Development
Have You an Idle Factory in Your Town? . . . 103

Business Machines
Clear Utility Records Give Quick Service . . . 48

City Manager Plan
City Manager Appointments . . . 103

Conventions
Conventions—When and Where . . . 117

Finance and Taxation
Trends in Non-Defense Expenditures—National, State, and Local . . . 49
Cities Face War Emergency with Lower Debts and Improved Accounting Systems . . . 101
Bond Market . . . 103

Fire Prevention and Control
All-Purpose Forest Fire Truck . . . 11
Get to the Fire . . . 11
Glamour without Chromium . . . 55
Fire Prevention NOW . . . 99

Government and Administration
Effective Municipal Management . . . 62
Training for Public Administration . . . 85

Health and Sanitation
Buildings Needed for Wartime Civilian Health and Welfare . . . 51
Prostitution—Major Wartime Threat . . . 71

Housing
Preparedness for Post-War Urban Redevelopment . . . 67

Legal Decisions
Zoning and Planning Notes . . . 105
Municipal Law Notes and Decisions . . . 107

Lighting, Outdoor
Street Lighting in Wartime a Public Responsibility . . . 93
Dark Streets Breed Crime . . . 93
3,500 New Street Lights . . . 95
Darkness Dangers Stressed by Report . . . 97
Electric Eye Copies Street Lights . . . 97
Light War-Traffic Streets . . . 97

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Motor Equipment
All-Purpose Forest Fire Truck . . . 11
Snow Plow Piles Leaves, Saving Time and Money . . . 59
Tractor and Bulldozer Used on Dump . . . 121

News and Illustrations
Hints for Officials . . . 119

Parking Meters
Traffic Speeded Up by Parking Meters . . . 91

Parks and Recreation
Recreation for War Workers . . . 60
For Want of a Municipal Playground . . . 66

Planning and Zoning
Walking Facilities for Post-War England . . . 53
Preparedness for Post-War Urban Redevelopment . . . 67
Zoning and Planning Notes . . . 105

Police
Those Sleek Police Motorcycles . . . 7
Keeping Our Heads on the Enemy Alien Problem . . . 56
Dark Streets Breed Crime . . . 93

Publications
New Books and Pamphlets . . . 111

Public Relations
The Stamp of Authority . . . 7
Making Civilian Defense Effective Locally . . . 37

Public Utilities
Clear Utility Records Give Quick Service . . . 48
New Utilities Built; City Limits Extended . . . 65
Automatic Valve to Shut Off Gas Mains . . . 123

Public Welfare
Our Children in War Time . . . 50
Buildings Needed for Wartime Civilian Health and Welfare . . . 51

Sewers and Sewage Disposal
Disposal-Plant Grounds Beautified . . . 42
Industrial Load Outranks Domestic Sewage . . . 52
New Washington Sewerage Laws Simplify City Financing . . . 58

Snow Removal
Snow Melter on Airport Runways . . . 54
Snow Plow Piles Leaves, Saving Time and Money . . . 59

Street Construction and Maintenance
Defense Trucking Street Widened . . . 15
Reduction in Street Maintenance Costs . . . 61
Expansion Joints for Construction Work . . . 119
Anchoring New Face to Retaining Wall . . . 123
American Road Builders Mobilize at Memphis . . . 127

Traffic Control and Facilitation
Traffic Deaths Reach 40,000 . . . 66
The Traffic of Blood, Sweat, Tears . . . 87
New Signals Pass Traffic Faster Than Philadelphia Subway . . . 89
Darkness Dangers Stressed by Report . . . 97
Electric Eye Copies Street Lights . . . 97

Waste Collection and Disposal
Municipal vs. Contract Collection of Refuse . . . 13
City-Collected Refuse Incinerated . . . 13
Refuse Costs Tabulated by Winnetka, Ill. . . . 13
Tags for Garbage Cans if Ordinance Violated . . . 13
City Rubbish Incinerator Salvages Heat Through Steam . . . 83

Water Supply and Purification
Installation Costs of Water Services . . . 9
Water Waste Problem Met by Leesburg . . . 9
Glass for Filtration Plant . . . 40
Chlorine for Water and Sewage-Treatment . . . 45
Electric Heat for Pumping . . . 46
Wartime Safeguards for Water Supplies . . . 81
Quick Chlorination for Emergency . . . 119
Conversion Charts for Water-Works Men . . . 119
Compact Electric Hoist for Chemicals . . . 127

See pp. 17, 18, 20, 111, 113, 115, 117 for catalogs and publications on municipal and civic subjects

For Index to Advertisements see page 130

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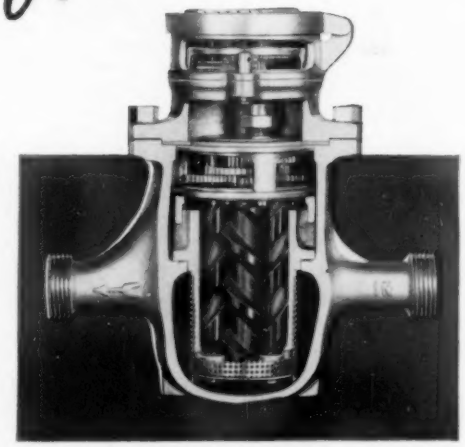
"NOW, more than ever before, I think it really pays to buy good meters. In the 40 years that I've been in the water works business, I've tried them all—had the chance to make real comparisons.

"Now, I'm buying IMO Meters. The IMO has all the good qualities—sustained accuracy, silent operation, long life with low maintenance costs. At first the claims for their accuracy over all rates of flow, and especially low flows, seemed almost unbelievable—but actual tests proved them to be a fact. That unique design with those three revolving rotors, really makes them operate silently. There are no objectionable clicking noises to annoy my consumers—you can't hear a sound. And I've proven to my own satisfaction that this design will increase meter life, because friction, which naturally wears out parts, is eliminated.

"Yes, I'm convinced it really pays to buy good meters —I've standardized on the IMO."



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Priorities for Municipal Needs

Excerpts from a Discussion at the U. S. Conference of Mayors, January 13, 1942

By Donald M. Nelson
Chairman, War Production Board

Edward J. Kelly
Mayor of Chicago

F. H. LaGuardia
Mayor of New York

• • • —

Mr. Nelson: We have to swing into this production program so much faster than we even imagined that it is going to bring hardship and sacrifices to each and every one of us; it is going to mean a change in just how cities operate themselves. You are going to have to be much more resourceful and will have to get along with a lot less than you thought you could. We hope, and I believe, we will have enough material to take care of our war program—I feel sure of that—to fulfill our job as the arsenal for democracy, and we are going to try to do everything we can to take care of the essential civilian needs. But everything today must be measured by one measuring stick whenever we think of using any critical materials of any kind that are needed in this war program. We must hold one yardstick up: *Is it in the interest of winning this war, or is it in the interest of the health and safety of our people?* Nobody recognizes more than I that morale of peoples helps win war, and certainly we want to preserve that morale. We want to do everything we can to keep our transportation and communication systems sound. The health and safety of the people we want to provide for, of course, but I want to tell you that this is not going to be an easy job.

It means that you as mayors have to pitch in and help in every way you can in your local communities to see that waste is eliminated. What do I mean by waste? Well, it may be that you would like to have a new city hall or you would like to have a new playground or you would like to have this, that, or the other thing that you have set your mind to; and it is very easy to delude ourselves into believing that the thing that we have always wanted is in the interest of winning the war. I am amazed, sometimes, as I sit down here, at how we do fool ourselves into thinking that this, that, or the other thing which we had always planned and wanted, and now appear to have the money for, is really in the interest of winning the war. You yourselves will have to use that same measuring stick which we are going to have to use in granting you the priorities to do the job: Is it in the interest of winning the war? Is it really in the interest of the health and the safety of the people? Is it something that the people in our cities really need, or is it just something that they want? Is it something that they would like to have, or is it a thing that they absolutely have to have?

Mayor Kelly: You said in your statement, Mr. Nelson, that cities should be helpful by not building city halls or things of that kind. I am wondering if we are overlooking the fact that we have an abundance of brick and an abundance of lumber and an abundance of glass, and also of cement and things of that kind, and that all we lack really in the construction of a building is copper and steel. Of course, we all remember when we didn't need either of these materials. I am wondering if there are any substitues over in the OPM, or in whatever department it might be which would stimulate building and put idle men to work. We have lots of bricklayers and plumbers and people of that kind who can go to work. Your thought is not to stop building because it is going to spend some money, as I take it. Your thought is to stop building where it is going to affect priorities. Am I right about that, Mr. Nelson.

Mr. Nelson: Yes, Mr. Mayor. I am glad to amplify that. Certainly we have plenty of brick. We have plenty of glass at the moment, but whether or not we shall have in the future I don't know; I think we shall. We certainly have plenty of stone and plenty of men to prepare the stone. I think perhaps there are many times when buildings could be put up that could be finished later when the critical materials are available, or when small houses could be built by not using critical materials or by using a very minimum of them. But let me just give you a figure on copper that is going to astound you. Unless we are able to make a lot of substitutions, *a lot of substitutions*, this new program which we have undertaken will take more copper than we are producing today. I think we are going to be able to make substitutions in the things we buy; for instance, steel in shells instead of copper, when the Army is absolutely certain that it can be done without impairment, thereby making enough saving so that we can use that copper in transportation, in communications, and in other vital things that we need. You need a certain amount of critical materials to carry on the essential services in the community, and certainly all of us realize that we can't allow the community to break down. It is a patriotic action if by using your resourcefulness you can erect buildings in your community that don't require priorities or the use of critical materials. But I think today we are going to have to stop using steel for many of these things, because we are going to need much more steel than we thought we would.

Mayor LaGuardia: Mr. Nelson, we could save your department a great deal of work if we were told exactly what we cannot use and if, on the other hand, your department would understand that certain functions of local government must be maintained, for instance, water supply, sewage dis-

(*Concluded on page 103*)

Resolution Adopted at the Above-Mentioned Meeting

Whereas, Under present conditions it is necessary for the maintenance of public services such as police, fire, health, hospital, transportation, water and sewerage services, to secure priority ratings for those materials, supplies and replacement parts required to insure continuous operation of these vital services; and

Whereas, There has not yet been fully developed an effective procedure, organization and machinery which will give to public agencies priority ratings which will provide for deliveries of such materials, supplies and equipment without delay resulting from involved procedure;

***Therefore Be It Resolved*, That the 1942 Annual Conference of the United States Conference of Mayors urge upon the executive officers of the Office of Production Management* the establishment of automatic priorities for essential needs of public bodies, in order that the carrying on of those public functions of government which form an integral part of the National Defense effort may be assured.**

* Since absorbed by the War Production Board.

THEY CAN HANDLE THE TOUGH JOBS

The men and women in the Bell System are used to meeting emergencies and they are trained and equipped to carry on in times of special need. For years they have known the test of fire, flood and storm. That experience stands in good stead in this greatest emergency of our time. The Nation is counting on telephone workers to prove faithful to the task and they will not fail. Always before them is the tradition that the message must go through.

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Mention THE AMERICAN CITY—it helps.

Our Municipal Notebook

Those Sleek Police Motocycles

THE HIGH IMPORTANCE OF MOTORCYCLES for numerous public-safety purposes was recognized in the recent American City survey of the defense values of traffic devices and vehicles. Out of ten major factors in regulating and facilitating the movement of trucks and other vehicles, motorcycles were placed at the top of the list by Batavia, N. Y., Harrisburg, Pa., Huntington, W. Va., Lincoln, Neb., Martinsburg, W. Va., Meadville, Pa., Portsmouth, Va., New Rochelle, N. Y. Their importance in escorting vehicles that are carting defense material was emphasized by Director of Public Safety Cobe S. Venner of Lincoln and Chief of Police Walter L. Kirchoff of New Rochelle. Salt Lake City says they assist in facilitating army movements and in the changing of shifts at factories. Still other cities, such as Waterbury, Conn., Long Beach, Calif., Tampa, Fla., comment on the essential municipal job which motorcycles perform in breaking up congestion and regulating speeds. Captain A. A. Quinn of the Chester, Pa., Traffic Division says, "The reason why motorcycles will eliminate the speeding on highways is because they can get to intersections during peak hours." Says City Manager Joseph M. Hatchett of Peetrsburg, Va.: "They get more quickly to congested points." Knoxville, Tenn., and Youngstown, Ohio, express this same opinion. El Paso has a motorcycle per 1,000 population. "Easy to get through traffic and can be moved from one point to another," says Decatur, Ill. Traffic Engineer V. L. Johnson of Cleveland, Ohio, points out that parking meters, pavement markings, traffic signals and signs all tend to free and speed up traffic flow, while "motorcycles are necessary to make the work of those other traffic devices operative."

Air-raid warden or other public officer, or even a pedestrian, identified and to an extent protected from blackout traffic by bands of a material consisting of a high-grade woven fabric coated with blue phosphorescent lacquer covered with a clear protective coating; it is Conti-Glo P-10, made by Continental Lithograph Corp., Cleveland

The Stamp of Authority

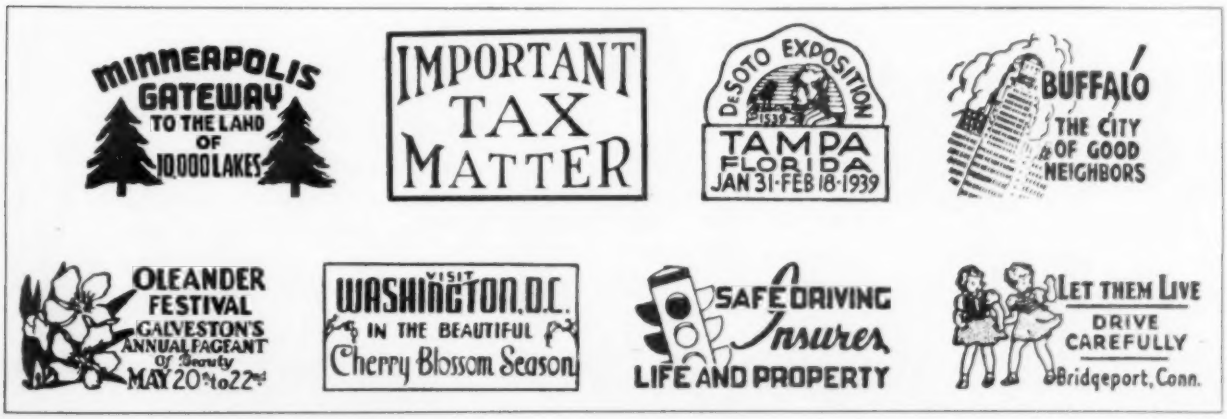
THE LITTLE ART EXHIBITION OF THIS PAGE shows how a number of cities are using their postage meters to stamp traffic caution and local oleander festivals on the minds of taxpayers. This little service is only an extra to the cutting of postage cost, stoppage of losses, speeding up of mailing, and protection afforded by the meter, which also seals the envelope. Incidentally, The Postage Meter Co., Stamford, Conn., will send you free a postage computer.

War Wisdom

OUT OF THE WELTER OF INSTRUCTIONS AND ADVICE ON AIR-RAID PRECAUTIONS, certain bedrock facts emerge. A major requirement of a city in a target area would seem to be a dependable siren, horn, or whistle. Remember, the yellow warning or first alert is intended to sound when hostile planes are 20 minutes away; the red warning or second alert, five minutes before attack. Actually, these periods of time are theoretical—there is no guaranteed period of time to prepare or take cover. Hence an immediate alarm is essential.

There is much discussion of how black is a "modern" blackout. Many engineers and officials favor pattern blackout of diagonal streets and prominent buildings by extinguishing street lights and neon signs. Blackouts, however, are determined by the commander of the Interceptor Command; and it is believed that the Army interprets blackout as total blackout.

It is also believed that officialdom desires that immediate measures be taken to assure the blackout of defense plants in case of an emergency. Shall they also be camouflaged by paints of the types mentioned on page 77 of this issue? Would it not be better to wait until bombing starts? Figure it out.



If you ask for the municipal advertising manager's office in many city halls, you may be referred to the mailing room where the postage meter is turning out some good ads as above

New Application of an Old Idea

★ Because of its pleasing, modern appearance, the elevated steel spheroid shown above was chosen to store 1,000,000 gallons of water for residents of Jonesboro, Ark. In purpose, this particular tank merits singular distinction by being the only structure of its kind ever installed for water storage. Its basic design was "borrowed" from the standard Hortonspheroid which has been used for years to store natural gasoline and volatile liquids under pressure for the petroleum industry. Construction is slightly different, however, as it is not built to withstand internal pressure.

Elevated at a height of 70 ft. to bottom, this tank provides gravity pressure to help keep distribution pressures uniform, as well as holding an ample reserve instantly available for fire protection.

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Water Works Operation

Pasadena, California

COST PER FOOT OF CAST IRON MAIN CONSTRUCTION BY FISCAL YEARS

Size	Fiscal Yr. Ending June 30	No. Ft. Laid	COSTS Labor	Auto and Equipment	Material	Overhead	Total
4"	1926	3,953	.158	.023	.304	.315	.795
	1928	2,352	.2117	.0262	.371	.443	.852
	1929	910	.2342	.0253	.3289	.0476	.6360
	1932	472	.194	.0426	.3284	.0261	.5911
	1935	181	.3222	.0727	.3334	.079	.7341
	1936	406	.1751	.0605	.4329	.1443	1.1565
	1937	117	.2765	.0705	.5290	.1451	1.0620
	1938	1,009	.2256	.0342	.3909	.0330	.6837
	1939	392	.1329	.0135	.3713	.0239	.5516
	1940	451	.2606	.0346	.3949	.0429	.7329
	1941	357	.4029	.0523	.4378	.0962	1.0413
6"	1916	12,452	.284	.024	.435	.097	.840
	1918	11,029	.298	.022	.744	.307	1.17
	1920	1,176	.337	.034	.946	.171	1.51
	1922	14,339	.3264	.0289	.8042	.0427	1.2104
	1924	38,726	.3616	.0466	.7186	.0323	1.1623
	1926	22,148	.346	.04	.7269	.0464	1.1233
	1928	12,466	.2505	.0295	.6053	.0457	.9310
	1930	991	.4063	.0944	.7014	.0427	1.2756
	1932	1,454	.2924	.0414	.5665	.0904	1.0922
	1934	936	.5422	.0964	.5264	.1793	1.3561
	1935	176	.3052	.1129	.7967	.1303	1.585
	1936	2,312	.3686	.0480	.6674	.0986	1.1826
	1937	2,246	.3662	.0469	.5669	.0799	1.0602
	1938	5,351	.3685	.0418	.5217	.1132	1.1452
	1939	4,367	.3554	.0632	.6223	.1663	1.3299
	1940	1,929	.3330	.0227	.5931	.1329	1.2737
	1941	2,438	.3923	.0379	.6516	.1194	1.3779
8"	1916	12,546	.294	.022	.63	.117	1.063
	1918	8,247	.333	.029	1.12	.349	1.83
	1920	8,396	.418	.041	1.268	.223	2.951
	1922	15,558	.3648	.0382	1.1696	.0696	1.7810
	1924	60,514	.3021	.0586	.9762	.0343	1.4344
	1926	64,026	.3686	.0662	.9974	.0671	1.5065
	1928	43,572	.2846	.071	.9836	.0432	1.3555
	1930	27,017	.3797	.1421	.7351	.0703	1.3544
	1931	13,356	.4624	.0654	.8472	.0969	1.5151
	1932	33,239	.4714	.0452	.7492	.0446	1.3604
	1933	18,979	.4828	.052	.5827	.126	1.2435
	1934	19,249	.4246	.0586	.6241	.1094	1.2666
	1935	21,172	.3503	.0423	.7492	.1411	1.3328
	1936	18,931	.4771	.0696	.7254	.1229	1.3950
	1937	21,123	.3942	.0436	1.0251	.0742	1.5371
	1938	39,842	.3420	.0561	.9550	.1255	1.5786
	1939	7,502	.4026	.0587	.9276	.1132	1.5021
	1940	2,256	.4555	.0453	.9475	.1392	1.7875
	1941	13,242	.4234	.0671	.9726	.1466	1.7097
9"	1916	2,710	.475	.021	.529	.151	1.499
	1918	1,774	.39	.027	1.437	.263	2.227
	1922	3,329	.5534	.0532	1.202	.0747	1.8833
	1924	20,440	.527	.077	1.43	.042	2.077
	1926	15,934	.4536	.0703	1.302	.0931	2.219
	1928	24,155	.60	.0707	1.3265	.1214	1.9186
	1930	9,374	.4394	.0797	1.1158	.1016	1.7365
	1931	4,561	.5004	.0995	.992	.1821	1.792
	1932	12,099	.4712	.0712	1.0783	.142	1.9627
	1933	14,514	.4992	.0618	.9225	.1343	1.6178
	1934	4,963	.6206	.069	.9456	.1596	1.8948
	1935	5,126	.4342	.0646	1.0208	.1633	1.2829
	1936	9,419	.4849	.0925	1.1321	.134	2.0435
	1937	5,119	.4799	.0605	1.3219	.0964	2.0787
	1938	5,662	.4952	.0750	1.3209	.1520	2.1502
	1939	2,509	.7354	.0877	1.3266	.1520	2.3731
	1940	4,973	.5476	.1195	1.3473	.1622	2.4273
	1941	6,634	.5299	.0792	1.3333	.1467	2.3162
10"	1916	6,209	.5721	.053	2.027	.0949	2.7770
	1931	20	2.44	.1833	2.711	6.864	6.0017
	1935	15	4.1811	.2265	6.9067	1.3217	12.6360
12"	1924	3,750	.5672	.0532	2.7715	.0533	3.3452
	1935	15,186	.649	.0551	2.3262	.1462	3.1765
	1938	8,210	.5233	.1426	2.2583	.1456	3.0673
	1939	12,962	.5647	.1003	2.0012	.1414	2.8232
	1941	3,761	.5235	.1024	2.1119	.2557	2.9935
	1932	4,926	.5486	.1023	2.1542	.2102	3.0153
	1933	11,556	.7850	.0887	1.5522	.2553	2.6712
	1934	2,421	.9111	.1437	2.1917	.1674	3.4079
	1935	8,878	.5749	.1034	1.7324	.1912	2.6019
	1937	3,236	.9470	.0994	2.3496	.1457	3.4417
	1938	6,289	.9374	.0965	1.3946	.2286	3.0041
	1939	3,295	.8544	.0834	2.1113	.2130	3.1621
	1940	344	2.6922	.2306	2.7272	.4223	5.4071
	1941	1,392	1.2925	.1087	2.6611	.3363	4.4720
14"	1916	1,286	.569	.032	1.434	.291	2.726
	1931	36	1.711	.117	3.6284	.7274	6.1948
16"	1924	4,703	1.228	.091	4.352	.111	5.468
	1926	2,324	1.0432	.1621	4.4472	.2271	5.488
	1927	2,762	.9496	.176	4.1052	.2861	5.5241
	1928	3,127	.9761	.2254	5.1977	.216	5.6651
	1929	442	1.4372	.1442	3.4797	.2721	5.3332
	1931	1,920	.647	.1635	2.4898	.1974	3.4369
	1933	2,052	1.1795	.1715	3.0735	.4817	4.8742
	1935	2,917	1.3011	.1107	3.0468	.2937	4.6523
20"	1915	3,058	.791	.061	2.732	.211	3.995
	1923	4,311	2.0087	.1218	5.7049	.277	9.3114
	1924	1,941	2.0759	.2256	5.8526	.3454	8.3285
	1925	1,009	2.052	.209	4.9639	.1959	7.4419
	1926	2,827	1.1262	.2197	4.4656	.3078	6.1191
	1929	1,037	1.6251	.1862	4.5225	.3225	6.6763
	1931	37	4.186	.2492	9.132	1.0293	14.5011
	1939	160	1.2589	.1682	3.9670	.3182	5.6823
24"	1917	2,266	1.87	.251	5.742	.381	8.357
	1925	10,215	1.3944	.1904	5.9041	.3327	8.3548
	1926	2,147	2.1721	.2039	6.3332	.4041	9.1633
	1931	7,434	1.8186	.1647	5.4252	.3262	8.7347
	1932	153	2.6813	.2561	8.7202	.9181	11.4268
30"	1924	4,416	6.317	.47	12.78	.431	19.99
	1931	216	3.2886	.3541	8.0744	.7911	12.3082
	1935	45	10.24	1.0705	16.7196	13.1451	194.6745
	1935	27	9.9576	1.1030	17.9791	2.6466	31.5863

Installation Costs of New Water Services

THE ANNUAL REPORT OF THE WATER BOARD OF CAMBRIDGE, MASS., recently issued for the year ending December 31, 1940, states that galvanized iron, cast iron and lead-lined pipe were used for the 56 new services installed during 1940. These services totaled 2,016 feet and ranged in size from ¾-inch to 6-inch. The average length of the services installed was 36 feet, and the average cost per service, including large

62nd Annual Convention
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Chicago, Illinois
June 21-25, 1942
The Stevens Hotel

supplies up to 6-inch, was $64.78, of which $57.27 was for labor. Timothy W. Good is General Superintendent of Water Works and Clerk of the Water Board of Cambridge, Mass.

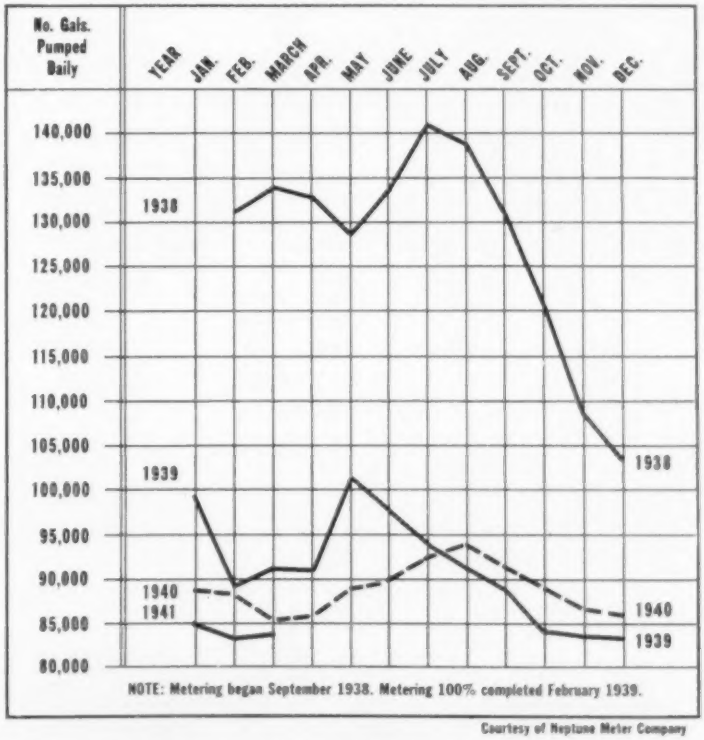
Water Waste Problem Met by Leesburg, Va.

THE PROBLEM OF WASTE in water consumption has become exceedingly pressing in hundreds of communities, particularly where water resources must be husbanded in order to take care of the tremendous increase in demand created by new industrial establishments manufacturing national defense materials. The accompanying chart graphically depicts the experience of Leesburg, Va., showing the influence which the metering of service connections has had upon the water consumption.

In 1938, beginning in September, meters were installed on 58 of the 460 taps in the town. By February, 1939, the town was 100 per cent metered and at that time had 500 taps. In 1940, and continuing into 1941, the number of taps increased to 504. The chart shows the sharp drop in water consumption immediately following the initial installation of meters.

Leesburg's record is fairly typical of the drastic curb on water waste which can be effected through metering. Similar results, proportionate to the number of metered outlets, are being reported from practically every city or town that has become 100 per cent metered.

The purchase of new equipment for expanded municipal services has become very complicated through defense priority ratings. Metering, in promoting conservation of water resources, not only gives added weight to a priority appeal but also offers an alternative proposal to expansion. Small communities, as well as large, have to bear in mind that boom-town conditions may not survive the emergency, and that water-works facilities and reserves must maintain as close a relation as possible to normal population and growth. In any case, 100 per cent metering is universally considered a wise objective by engineers and civic administrators alike.



Courtesy of Neptune Meter Company

Diagram Showing Beneficial Effect of Metering

AIR ATTACK?

Tests Prove INDIAN FIRE PUMPS Control Incendiary Bombs!

"Every city has become the legitimate target of attack and every industrial center a desirable center of destruction by the opposing forces, and that means that the civilian population, heretofore protected, is constantly exposed to attack.

"REMEMBER . . . AN INCENDIARY BOMB CANNOT RECOGNIZE A CITY LINE. IT MAY DROP IN YOUR CITY OR IT MAY DROP IN YOUR NEIGHBORING CITY . . . SO YOU MUST PREPARE."

—F. H. LaGUARDIA,
U. S. Director Civilian Defense.

Regular firemen demonstrate the use of INDIAN FIRE PUMPS to volunteers in Auxiliary Brigade. The wide variety of fires which may be handled with only INDIAN FIRE PUMPS makes them especially valuable today in combatting arson, sabotage, accident and incendiary bombs.

*Illustrating how one man can operate an INDIAN FIRE PUMP where **three** or **four** are needed for the stirrup pump—one or more to carry water, one to direct nozzle and one to pump. Large INDIAN tank holds 5 gallons of clear water.*

No. 147 BOMB NOZZLE

Equip Now with these Famous Fire Fighters Which Use Clear Water Only!

OFFICIAL tests bring out the marked advantages of INDIAN FIRE PUMPS for incendiary bomb work. No. 147 Bomb Nozzle throws continuous long-distance spray which speeds burning and wets down surrounding area preventing spread of fire. Only clear water used. Rust-proof, leak-proof tanks carry by handle or slung on the back. ORDER NOW! INDIAN FIRE PUMPS are the answer to every city's fire problem. *Catalog on request.*

THE ALL-PURPOSE UNIT

Long used by fire departments, foresters, CCC Camps, lumbermen and many others, INDIAN FIRE PUMPS are world famous. They are unexcelled for handling building, roof, partition, grass, rubbish and incipient fires. INEXPENSIVE. STURDILY BUILT OF BEST MATERIALS.

Long line of volunteer firemen with INDIAN FIRE PUMPS parade during Civilian Defense turnout in large city. An ample supply of INDIAN FIRE PUMPS is the best protection against incendiary bombs and other war-time fire hazards.

5 Gal. Armco Zincgrip or polished brass tanks. Also furnished complete unit chrome plated.

D. B. SMITH & CO., 419 Main St., UTICA, N. Y.

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617 E. 3rd St., Los Angeles, Cal.

Modern Fire Equipment

All-Purpose Forest Fire Truck

By Donald F. Swift
Fire Department
Foxboro, Mass.

Well-equipped forest fire truck of Foxboro, Mass.

THE Foxboro Fire Department is a call department with the exception of one day man whose hours are from 8 A.M. to 5 P.M. We have 32 men and officers in one ladder and two engine companies. All members are subject to call for forest fires. Ambulance duty is divided equally, two men being assigned each month. In cases of emergency the first two available men answer the call.

Men who are able to answer at all times and whose attendance is regular receive $25 per year base pay, $1 per hour for box alarms, and 75 cents per hour for forest fires. Those not able to answer between 8 A.M. and 5 P.M. receive $12.50 per year plus the hourly rates. All new members serve a six-months probationary period and receive only the hourly rates during that time

The majority of the men have attended firemen's training schools either in Brookline or Attleboro, Mass., and are required to attend practices and lectures; 26 hold Red Cross First Aid certificates; 16 are trained in rifle shooting.

Our newest apparatus is a Mack Type-40 forest fire truck with dual wheels; wheelbase 160 inches; overall 270 x 86 inches and 78 inches high; color white with gold-leaf lettering. The truck is equipped with a 200-gpm Hale rotary-type pump. Directly behind the driver's seat is a closed compartment in which are stored a Pacific portable pump of 115-gpm capacity, gasoline and oil, axes and saws. In the forward end of the body is a 300-gallon water tank connected to the pump. Directly above this tank, mounted length-wise of the truck, one on each side, are two 500-foot booster-hose reels. In the rear of the body is a 2,000-foot cap reel for 1½-inch hose. On the outside of the body on each side above the mudguards, running lengthwise of the truck, are racks in which the suction hose for both pumps is carried. On top of each rack are six Indian Fire Pump extinguishers. Mounted on the rear step are nozzles, spare tips, adapters, Y gates.

This truck answers all calls for forest, chimney, automobile fires, as well as small fires in outlying districts not served by the town's water mains.

In addition to the new forest truck, our equipment consists of one Maxim ladder truck with 245 feet of ladders, a portable United States lighting plant, a 750-gallon Ahrens-Fox pumper, a 500-gallon Maxim pumper, a combination chemical and hose truck, and a Chevrolet ambulance which answers about 100 calls a year.

We are also equipped with two-way radio, on the Massachusetts Department of Conservation wave length. This permits contact with fire-towers in our district in addition to truck-to-station or station-to-truck conversations. Eight men hold restricted radio operators licenses.

An auxiliary fire department of 25 men is being drilled weekly. Five trailers, to be loaded with hose, pipes, gates, hydrant wrench, spanners, axes, and shovels have been purchased for the use of the auxiliary fire department in time of air raids. These trailers will be located in the outlying sections of the town with members of the auxiliary assigned to each location.

Get to the Fire

In the days of horse-drawn fire apparatus, cities were proud of their drivers' ability to handle two or three galloping horses through the thickest of traffic.

Today, with the power of a hundred horses under the hood of the automobile fire apparatus, and with greatly increased speed of all traffic, few cities are making a proper effort to assure a safe chauffeur for fire apparatus.

The principal objections to much of the older apparatus in service are that the brakes are not as quick-acting as those of commercial trucks, and that the vehicle is slower on the pick-up after a driver slows down for a street intersection. This last is one of the reasons for many of the accidents; the drivers, in the mistaken idea that they must make "speed," will drive through. These factors are vital in the avoidance of collisions, and they make it all the more important that practice in driving, and proper selection of the driver, be made a part of the routine.

The training of drivers is essential under normal conditions. It becomes imperative if a large auxiliary fire force is built up for the present emergency. Without this training and without definite instructions that the main object is to *get* to the fire—not just a matter of speed—there will be many accidents and serious loss of life especially under blackout conditions.

George W. Booth,
Chief Engineer, National Board of Fire Underwriters, New York City.

First Line Of Defense For Public Health

EVERY community in the country is affected in some way by the National Defense Program. Manufacturing production is up. Factories are working twenty-four hours a day. In many instances populations have doubled almost overnight. The housing shortage is acute. And, as a result, the demands on the local water supply have multiplied in proportion.

In the light of this situation it is apparent that, in many instances, existing equipment, which for years has supplied normal needs, can no longer be depended upon to deliver pure water in sufficient volume. Yet public health must be safeguarded at all costs. It is our first line of defense. And an adequate supply of properly conditioned water to meet emergency demands is imperative.

Graver has specialized in the design and manufacture of all types of water conditioning equipment for more than thirty years. In the interests of National Defense you should check over your equipment today. Make certain that your facilities are adequate, efficient, and economical. And if you are confronted with any water treating problem, consult Graver at once. Our engineers will gladly make an analysis of water samples and submit unbiased recommendations.

WATER SOFTENERS
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FILTRATION SYSTEMS
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FABRICATED STEEL AND NON-CORROSIVE PLATE

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42-12-W

Refuse Collection and Disposal

Municipal vs. Contract Collection of Refuse

A SAMPLING SURVEY of 190 American municipalities to determine whether refuse was collected by the municipality or in some other way was recently made by the American Public Works Association. Fifty-five per cent of the 190 cities, ranging in size from less than 25,000 to over 100,000, reported refuse collection as a municipal function. Eighteen per cent reported that contracts were let for collection, and 11 per cent reported that the service was performed by private refuse collectors and paid directly by property owners. Combinations of the three types of service were reported by the remaining cities.

Compared with a wider survey of 566 cities made about ten years ago, the current report shows a relative increase in the number of municipalities making their own collections, and a decrease in the number of cities with private collection.

Although more than one-half of the cities over 100,000 population reported in the survey have municipal collection combined with private or contract service, a number of the large cities still assume no duties except supervision in connection with refuse gathering. Among them are Seattle, South Bend, Kansas City, Mo., and Omaha, which use contractors exclusively, and San Francisco, Portland, Ore., Decatur, Ill., and Oakland, Calif., where private collecting is in force.

Many combinations of municipal, contract, and private services are in use. Los Angeles, Calif., for example, collects about 90 per cent of the garbage with municipal forces, but awards contracts for the service for two outlying districts. Non-combustible rubbish is collected in Los Angeles by the city, but combustible rubbish is picked up by private collectors. Portland, Maine, and Erie, Pa., likewise use all three plans in both residential and commercial areas.

Whether refuse should be collected by city forces, by contractors, or by private collectors depends upon the circumstances in the community. No one of the plans of refuse collection is a guarantee of good results in itself. Good personnel, sound management, and a minimum of political interference in the administration of the operations are the main factors contributing to the success of any of the arrangements.

While municipal collection has a head start over either the private or the contract plan in not having to earn a profit, not all cities are well enough administered to perform the service efficiently. When the administration is only mediocre, the contract system may be preferable, since contractors are likely to employ good business management. Private collection, though normally more expensive, is "a desirable alternative to municipal or contract operations where neither of them can be established under favorable circumstances," according to the APWA report.

Greensboro Incinerates City-Collected Refuse

THE SANITARY DIVISION OF THE PUBLIC WORKS AND SERVICE DEPARTMENT OF GREENSBORO, N. C., in the fiscal year ended June 30, 1941, had 40 full-time employees, and its expenditures amounted to $47,436.84. It operated with eleven collection districts, using twelve trucks for the collection of garbage and trash. There were three collections of garbage and combustible waste and two collections of ashes each week. The recent boom in home construction, which added 583 family units during the year, put a strain on the collection system and required the addition of another truck. During the summer months, it was necessary to operate the incinerator almost continuously, and if the plant load continues to increase it will be necessary to enlarge the incinerator shortly.

Garbage and trash through incinerator	32,424 tons
Garbage hauled to incinerator	23,250 loads
Street sweepings disposed of	2,621 loads
Ashes hauled to dump	9,899 loads
Total loads hauled	35,770 loads
Truck days operated (12 x 284)	3,408
Average loads per truck per day	10.5
Animals disposed of	1,788

Refuse Costs Tabulated by Winnetka, Illinois

THE COLLECTION AND DISPOSAL OF GARBAGE, ashes, and rubbish is one of the most important services rendered by a municipality. The Annual Report of the Village of Winnetka, Ill., for the fiscal year ending March 31, 1941, shows the nature and extent of this activity in Winnetka for that period. Garbage and combustible refuse were disposed of at the incinerator of the Village of Glencoe, while all remaining collections were placed on the village dump at Crow Island Park.

During the latter part of the fiscal year, a comprehensive report on the existing waste collection system was made, with recommendations for certain revisions. These changes were approved by the Village Council and were placed in effect on April 1, 1941. Because of the decrease in ash service requirements, and also the desirability of more frequent rubbish collections, the revised system provides for weekly collections of all materials at one time, with the exception of garbage which is collected three times weekly as before. The increased efficiency possible under this plan permits the furnishing of better service at about the same expense as heretofore.

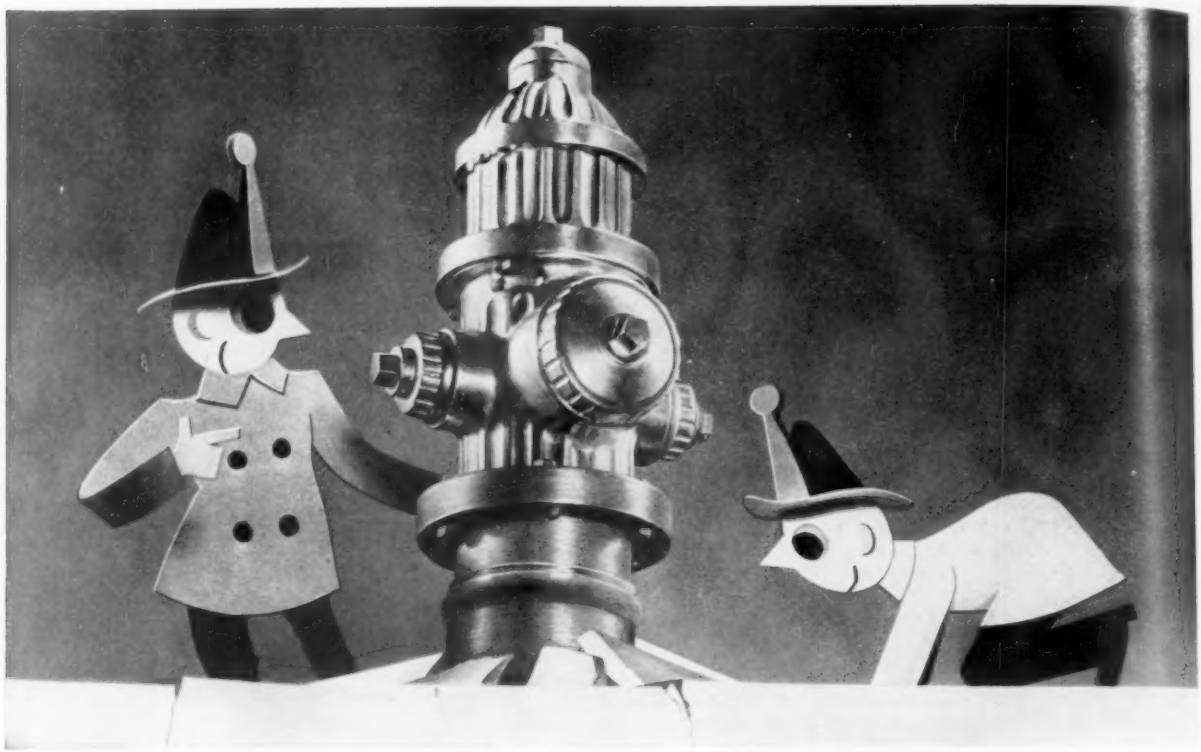
Tags for Garbage Cans If Ordinance Violated

TO PUT AN END TO VIOLATIONS of the refuse collection ordinances, two southern cities, Frederick, Md., and Petersburg, Va., are putting tags on garbage cans just as they do on automobiles for traffic violations. In Frederick most violations are a disregard of the rule to separate burnable from unburnable refuse, and the refuse containers of violators now are tagged with red tags informing householders that they must dispose of their own refuse unless it is separated properly for city collection.

The main trouble in Petersburg is violation of the ordinance regulating the location of refuse containers. Offenders whose garbage cans are tagged must pay a fine of $1.00 at police headquarters within 24 hours, or they receive a summons.

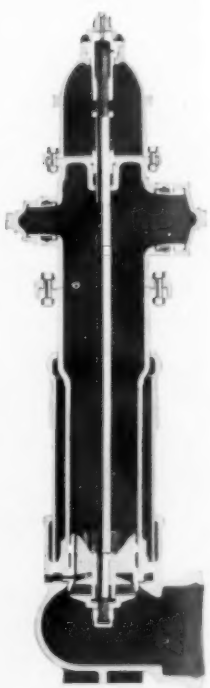
REFUSE COLLECTION AND DISPOSAL, WINNETKA, ILL., 1940-41

Service	Total Cost	Quantity	Unit Cost	Revenues from Charges	No. of Customers
Garbage Collection	$12,506	2,466 tons	$5.08	$	2,231
Garbage Disposal	8,884	2,466 tons	3.60	....	....
Household Rubbish	3,404	947 tons	3.59	....	2,664
Ashes	4,524	3,923 cu. yds.	1.15	3,784	434
Commercial Rubbish	4,714	1,057 tons	4.56	3,300	110
Residential Yard Rubbish	774	....	....	926	463
Waste Paper (collected with garbage)	....	....	....	524	262
	$34,806			$8,534	



28" OF FROST IN THE GROUND
BUT OUR MATHEWS NEVER BUDGED

Everybody knows that ground swells when it freezes. But Mathews is the only hydrant designed to prevent that swelling ground from heaving the hydrant loose from its water main. The Mathews Hydrant has a loose protection case which is free to rise and fall without putting any strain on water carrying parts. If you face cracked or leaky hydrants this spring, investigate Mathews. This same protection case allows the barrel, containing all working parts, to be changed like a spare tire for repair, overhaul, or modernization.



MATHEWS HYDRANTS

Made by R.D. WOOD Company

400 CHESTNUT STREET, PHILADELPHIA, PA.
ESTABLISHED IN 1803

Street and Bridge Improvement

John J. Bothwell, Superintendent of Streets, Culver City, Calif., directs the work of the city's International TD-T diesel tractor equipped with a McCaffrey cable-operated 1¼-yard front-end loader. The loader is easily removed and a bulldozer substituted

Toledo Bridge Repaved without Traffic Halt

RESURFACING OF THE CHERRY STREET BRIDGE, one of the busiest vehicular structures in Toledo, Ohio, was accomplished in 66 days; it was started April 1 and completed June 6, 1941. The bridge has a lift-span which averaged about one lift per hour while the work was in progress, and the bridge was not closed to traffic at any time except when the span was up.

The project involved the removal of the old surface and base, street-car tracks and guard-rails, and the resurfacing of the bridge with a 6-inch concrete base covered with a 1½-inch asphaltic concrete binder and a wearing surface of the same type and thickness. The length of the work was 0.3-mile and included the installation of curbs and 8-foot sidewalks. By agreement between the city and the Toledo Edison Co., the power company removed 46 old arc lamps and replaced them with 18 modern incandescent lamps, giving a far better lighting of the structure.

This street carries a very heavy traffic. There are four bridges available for vehicles in Toledo; but the Cherry Street bridge carries about 50 per cent of the load, or some 13,000 vehicles daily. It was first thought that the bridge should be closed to traffic while the work was in progress; but, owing to a constant flow of materials for a defense industry located in the district, it was decided to re-route passenger-car traffic over the other two bridges and keep the Cherry Street bridge open, using one-half the bridge at a time. During early morning and evening hours, the bridge was open to all traffic.

At the narrowest point the bridge and approaches are 52 feet wide, this portion being about 600 feet long. Then there is a stretch of some 400 feet about 54 feet wide, and around 250 feet of 72-foot road. Improving this thoroughfare involved placing approximately 7,500 square yards of paving. The cost of the project, including new towers and resurfacing, was $93,653.

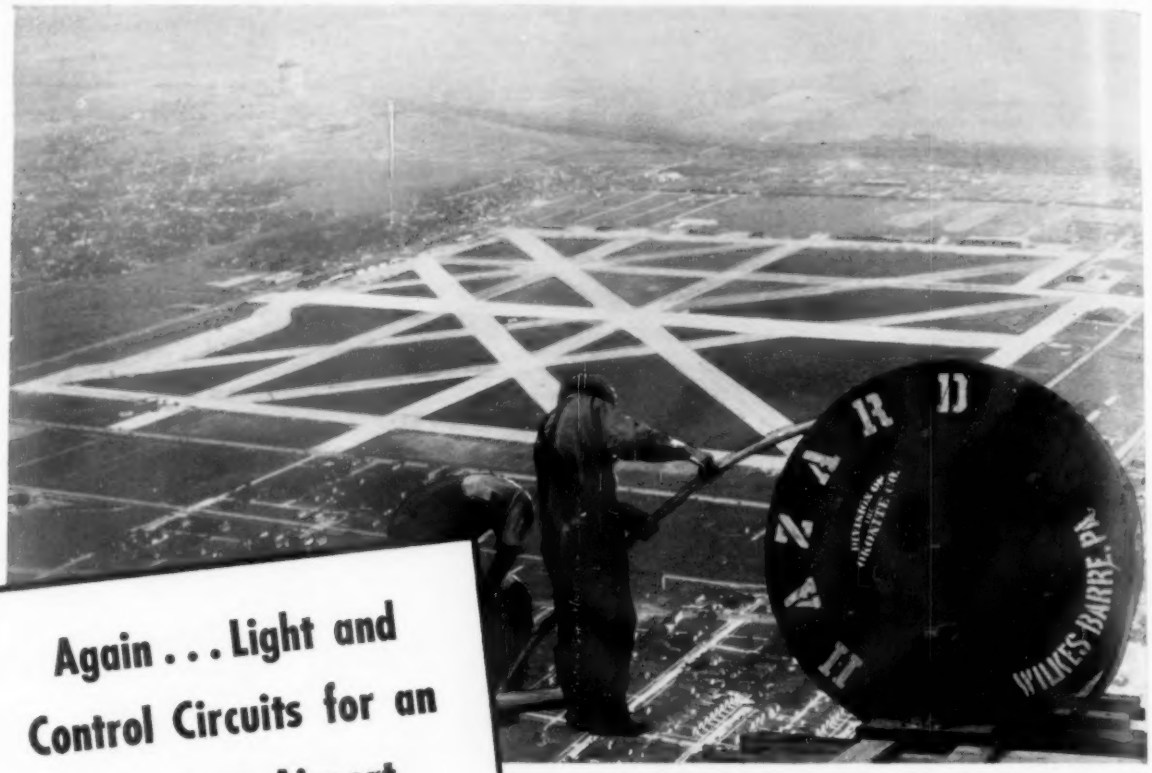
Defense Trucking Street Widened and Improved

NEARLY TWO MILES of 80th Street in the borough of Queens, New York City, has recently been changed from a dead-end dirt road and a bottleneck street to a modern, 50-foot-wide arterial highway, providing another major link between north and central Queens which will greatly benefit the defense industry trucking as well as traffic of all sorts in that section.

The last ¾-mile section was started last March. The work has included widening the former 22- to 25-foot street to a uniform 50-foot width. About a dozen buildings on the west side of the thoroughfare were partially or completely demolished by private contractors to make room for the relief-labor improvement. The grade was cut in several places, and a 185-foot-long concrete retaining wall was constructed. The widening and regrading operations required the relocation or replacement of trees, sidewalks, curbs and drainage facilities. The base was laid by relief labor, as well as the asphalt top.

Street improvement in Fitzgerald, Ga., where an Adams No. 311 Motor Grader powered by a 50-hp International UD-9 Engine mixed clay and sand for a new base for one of the city streets

Now . . . it's CHICAGO



Again . . . Light and Control Circuits for an Important Airport Wired with HAZASHEATH

● CHICAGO'S NEW MUNICIPAL AIRPORT—an outstanding contribution to modern aviation. It's a mile square, has nine runways, is the only airport with dual parallel runways. Safety for night traffic is assured by the latest equipment in lighting and control signals—drawing their power through 28 miles of HAZASHEATH Underground Cable supplied through Westinghouse.

From coast to coast and border to border . . . stretches an ever expanding network of busy airports whose vital night traffic is protected by modern lighting and electrical control signals—powered safely and surely through HAZASHEATH Underground Cable.

When a cable is first choice so many times for such an essential job, there must be good reasons. Here they are:

1. LOW INITIAL COST . . . HAZASHEATH is priced moderately; its simple construction (no lead sheath) and light weight, plus extreme flexibility speed up installations to the shortest possible time. What's more, it may be buried directly . . . saving conduit expense.

2. LONG and TROUBLE-FREE LIFE . . . Submarine Insulation, covered with a tough, mold-cured, long-aging, highest quality rubber jacket, gives HAZASHEATH Cables lasting protection against moisture, soil acids and alkalis, as well as mechanical injury.

Complete information about Hazard Underground Cables for airport wiring may be obtained from any district office of Westinghouse Electric & Mfg. Co., or direct from the Hazard Insulated Wire Works.

HAZARD INSULATED WIRE WORKS
DIVISION OF THE OKONITE COMPANY
Works: Wilkes-Barre, Pa.
Offices in principal cities

HAZASHEATH Underground Cables

Keep Up-to-Date on New Equipment

Please check over the following list of interesting catalogs obtainable free of charge and either write direct to the manufacturers for their literature, or, if you prefer, put a circle around the identifying numbers below to indicate the catalogs you want, mail this coupon to The American City Magazine, 470 Fourth Ave., New York, and we will see that the catalogs are sent to you without expense or obligation on your part. 2-42

100 101 102 103 104 105 106 107 108 109
110 111 112 113 114 115 116 117 118
119 120 121 122 123 124 125 126 127 128
129 130 131 132 133 134 135 136 137

Name ..... **Position** .....

Address .....

Air-Raid Sirens Large and Small

100. Large, rugged sirens for municipalities, smaller sirens for local larms, and emergency-vehicle sirens are described in Bulletin 590-S of The Sparks-Withington Co., Jackson, Mich. Ask also for a copy of "Air Raid Suggestions and Blackout Don'ts."

Preparedness for the Fire Department

101. A thorough check-up of the adequacy of your fire-hose supply is an important part of your fire-department organization and preparedness. Fabric Fire Hose Co., Sandy Hook, Conn., manufacturer of genuine wax and para gum treated fire hose, will be glad to furnish information on this type of hose.

Water Meters for Heavy or Light Flows

102. Designed to record the heavy flows frequent with industrial, institutional, and public building installations, Badger compound meters are said to be equally responsive to a trickling stream. Write for bulletins on the complete Badger line, issued by Badger Meter Mfg. Co., Milwaukee, Wisc.

Street-Maintenance Equipment

103. A complete catalog is obtainable from Connery Construction Co., showing this company's full line of tar and asphalt heating kettles, spraying attachments, pouring pots, and other equipment for street and highway maintenance. This catalog will be sent promptly to those addressing their requests to Connery Construction Co., 4000 N. Second St., Philadelphia, Pa.

Distinctive Features in Valves

104. The Eddy valve has a number of features of interest to water-works engineers and officials. An example of this is the fact that the gates are free to revolve on the trunnions, so as not always to seat in the same position. You are invited to write for further details to the Eddy Valve Co., Waterford, N. Y., also manufacturer of the well-known Eddy fire hydrant.

More Street Light per Luminaire

105. The new Type SG-10 Refractolux luminaire made by Westinghouse Electric & Mfg. Co., Edgewater Park, Cleveland, Ohio, gives more light per unit with easy maintenance of the entire unit. A six-page descriptive folder, B-3068, describes the Refractolux luminaire in complete detail and will be sent free on application to Westinghouse at Cleveland.

Air Raid Shelters

106. "Air Raid Shelters" is the title of an 8-page circular recently published by the Armco Drainage Products Association, Middletown, Ohio. It pictures and describes a corrugated pipe shelter made to accommodate up to 50 persons, the maximum recommended by the Office of Civilian Defense. Circular may be obtained from the manufacturer.

Rain When You Need It

107. The Skinner Irrigation Co., 447 Canal Street, Troy, Ohio, will be pleased to send a copy of its catalog, "Rain for the Asking," which explains in detail the various types of watering equipment designed to keep your city parks and parkways always fresh and green. This company is equipped to handle watering problems at low cost. A card or letter will secure for you a catalog and details of Skinner service.

Automatic Control Valves

108. Ross Valve Mfg. Co., Inc., P. O. Box 596, Troy, N. Y., has been making automatic control valves for altitude, pressure reduction and surge-relief since 1879. A complete description of these valves, data on their dependability and installation will be found in the literature of Ross Valve Mfg. Co.

Meeting Emergency Disposal Problems

109. "Incineration Headquarters" of the Nichols Engineering & Research Corp., 60 Wall Tower Bldg., New York City, is prepared to advise municipalities and answer their questions on sewage and waste disposal where rapidly increasing defense population raises problems which must be solved to protect community health. This company manufactures the Nichols Herrshoff incineration plant for the disposal of sewage and garbage waste matter.

Bomb and Fire Eradicators

110. The wide variety of fires which may be handled with the one-man Indian Fire Pumps, makes them especially valuable today. For information on how to safely extinguish incendiary bombs and other fires, write D. B. Smith & Co., 419 Main St., Utica, N. Y.

Protective Signaling Facilities

111. Distinctive-sounding vibrating horns or 10-inch vibrating bells for use in warning occupants of a building of an air raid are considered by some to be preferable to the use of fire-alarm or program-signaling facilities. Complete information on this type of signal may be secured from the Signal Division, The Holtzer-Cabot Electric Co., Boston, Mass.

Uninterrupted Power Vital to Defense

112. In municipal water works and sewage disposal plants, as well as many other applications, Worthington diesel and gas engines are maintaining unbroken performance records over long periods of service. Worthington's staff of qualified engineers will be glad to assist you with a thorough study of your power problem and submit an unbiased recommendation for your individual conditions. For all information, white to Worthington Pump & Machinery Corp., Harrison, N. J.

Fire Alarms As Air Raid Signals

113. The Gamewell Company, Newton Upper Falls, Mass., advises the use of existing municipal fire-alarm circuits for air-raid and other emergency alarms. This can be done without impairing the fire service. Gamewell Diaphone horns are either manually or power operated with a gasoline-engine-driven compressor or an electric-driven compressor. Originally designed for fog signaling the Diaphone has a harsh penetrating tone. Complete information may be secured from The Gamewell Co.

Winter-Proofed Hydrants

114. The Mathews fire hydrant is frost-protected by four distinct elements of its design. Write to R. D. Wood Co., 400 Chestnut St., Philadelphia, Pa., for a detailed description of this hydrant's design features.

Jointing Cast-Iron Water Mains

115. Leadite cement has been tested and used for over 55 years in the jointing of cast-iron water mains without caulking. It is shipped in powder form, packed in sacks of 100 pounds net each. For complete information, write to The Leadite Co., Girard Trust Co. Bldg., Philadelphia, Pa.

Filtration-Plant Equipment

116. During the past 40 years, Simplex rate-of-flow controllers, gages, and venturi meters have been installed in many of the world's finest filtration plants. Simplex Valve & Meter Co. proposes to increase its usefulness to the water-works profession by continued research, design, and cooperative measures with both designing and operating engineers. All inquiries should be addressed to this company at 6789 Upland St., Philaedlphia, Pa.

(Continued on page 18)

Send for Bulletin No. 306 Today!

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LEADITE

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WHICH OF THESE CATALOGS WOULD YOU LIKE?

(*Continued from page 17*)

Catch Basin and Sewer Cleaners

117. Champion Corp., 4716 Sheffield Avenue, Hammond, Ind., offers the OK Champion combined catch basin cleaner and sewer cleaner in one motor-powered set. This unit has two distinctly different but related jobs cutting the cost of equipment more than 50 per cent. Write the company direct for descriptive literature.

Water Waste Surveys

118. With the very general drought conditions in the northeastern section of the United States, water-waste surveys have become imperative to conserve the rapidly dwindling impounded waters for domestic and industrial supplies. Carefully planned, protective water-waste surveys are provided by The Pitometer Company, 52 Church Street, New York City. Literature on Pitometer water waste surveys, trunk main surveys, and water distribution studies may be secured direct from these engineers.

Aerial Surveys for Legal Maps

119. Abrams Aerial Survey Corp., Lansing, Michigan, provides a photographic survey service which produces topographic maps, contour maps, planimetric maps, tax maps, and legal maps for the use of city departments, and costs and benefits may be secured by corresponding direct with Abrams.

Appraisals for Local Tax Purposes

120. The J. M. Cleminshaw Co., Cleveland, Ohio, specializes in appraisals and revaluation of municipalities for local tax purposes. An illustrated brochure and moving picture film showing the value of this type of work will be sent on request.

Air or Steam Siren

121. Medium and large size sirens to suit area. Features are sharp cut-off permitting code, 120 to 130 decibels at 100 feet, frequencies of 250 to 550 cycles. For drawing and complete description, write Foster Engineering Co., 133 Monroe St., Newark, N. J.

Newly Designed Large Air Raid Siren

122. A new steam- or air-operated siren has been designed specifically for large-area coverage by a distinctive tone unlike any other alarm. It has been worked to meet the needs of all cities, including the large cities with their difficult conditions. For detailed description, write to Supersignal Corp., 25 Beaver St., New York City.

Vitrified Brick for City Pavement

123. Complete information on vitrified brick for city paving may be secured from the National Paving Brick Association, National Press Building, Washington, D. C. Modern brick offers a traffic surface for any vehicle at any speed plus low cost per year of service. Paving brick has by far the greatest resistance to weather damage.

Emergency Signal Sirens

124. Mechanically or electrically operated sirens and sirens driven by gas engines or steam, which are installed 35 to 40 feet above ground level and can be heard from one to seven miles, according to size, are described in literature which may be secured from the H. O. R. Co., Inc., 6-10 Broad Street, Stapleton, Staten Island, New York.

New Power Grader Bulletin

125. Bulletin 1946 recently issued by The Austin-Western Road Machinery Co., Aurora, Illinois, describes in considerable detail the operation of the new "99-M" Austin-Western Power Grader, which drives and steers on all four wheels, which make the first cut and subsequent passes on construction and maintenance work faster and easier.

Defend Your Water Supply

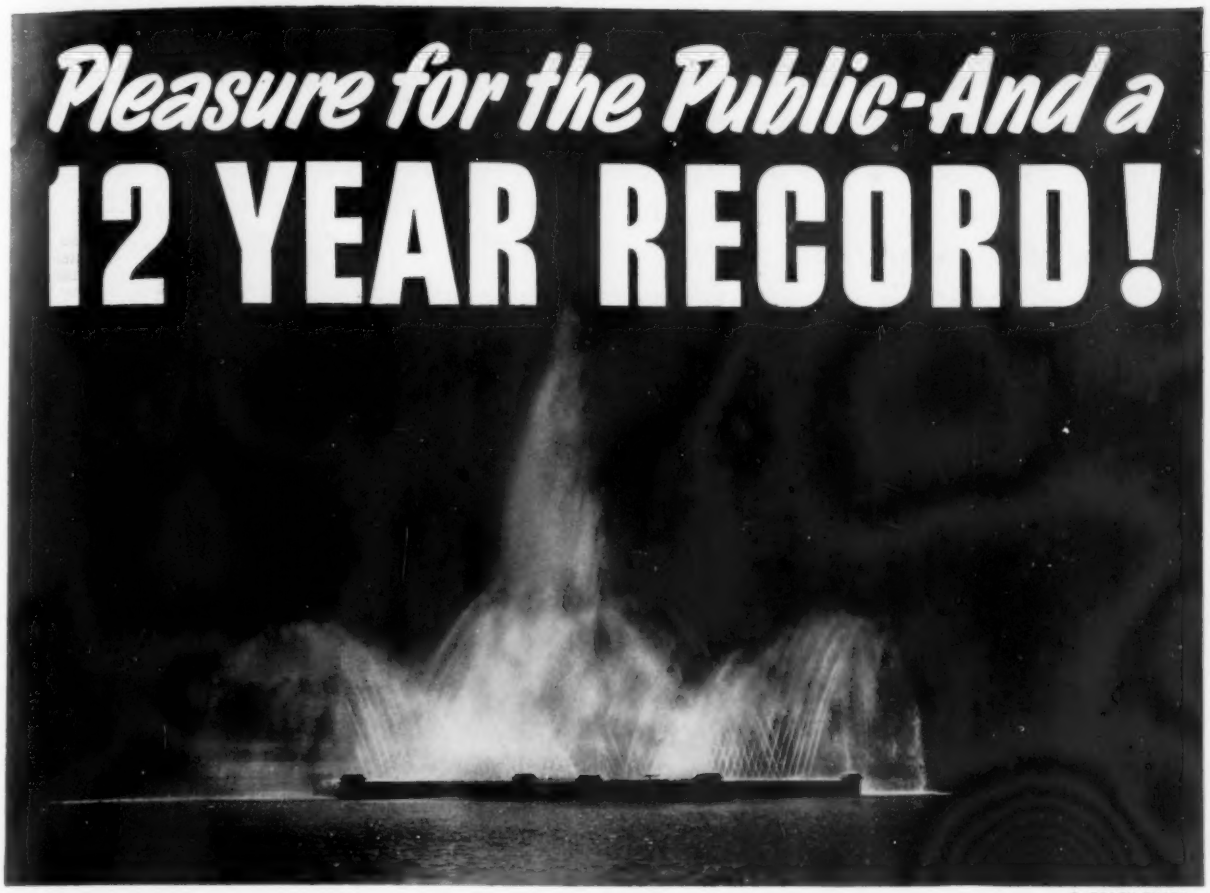
126. A 7-point checkup for the total protection of water supplies is given in a new 16-page booklet issued by Wallace & Tiernan Co., Inc., Belleville, N. J., entitled, "A Sound Defense Program For Your Water Supply. A copy of this booklet will be supplied free to water-works officials and operators on request.

Diesel Power Plants for Cities

127. Greenville, Texas, installed two Nordberg diesel engines in 1933, recently increased the capacity of the plant by a third unit of 2,000 hp., and now a fourth unit of 2,400 hp. has been added making a total of 6,850 hp. Full details of the advantage of this type of installation for municipal power may be secured direct from Nordberg Mfg. Co., Milwaukee, Wis.

(*Continued on page 20*)

Pleasure for the Public-And a 12 YEAR RECORD!



O. ROACH PHOTO.

12 Years of Entertainment — That's What Denver's Fountain, Park and 18 Hole Golf Course Have Given Thousands of Citizens . . . And Two Low Cost Allis-Chalmers Pumps Have Carried the Entire Water Load!

DENVER ENGINEERS KNEW that the extensive recreation facilities planned for City Park would put a heavy burden on the pumping system . . . and they wisely chose two Allis-Chalmers 150 HP Pumps to handle the job . . .

And for 12 long years these heavy-duty pumps have been giving a veteran performance for the Public's enjoyment . . . lifting the center jet of the fountain 120 feet above the lake . . . irrigating the broad lawns of

the park . . . keeping 18 greens and fairways in tip-top shape — with practically no repair. *That's outstanding service!* And that's typical of the efficiencies Allis-Chalmers Municipal Pumps are giving cities and towns all over the country.

Allis-Chalmers pumps are famous for their *big savings on big and little jobs.* Modernize your pumping equipment . . . meet today's demands for economy . . . *save up to* 50% *with Allis-Chalmers equipment.*

For the complete story . . . the answers to all your pumping problems . . . call the engineer in the district office near you, or write Allis-Chalmers, Milwaukee, Wisconsin. A1428

Allis-Chalmers Pumps Can Handle "Anything that Flows"

ALLIS-CHALMERS
MILWAUKEE-WISCONSIN

YOU JUDGE A MAN BY THE WAY HE WORKS

—and the same rule holds good for water meters.

It's the *working* records of Buffalo-made water meters that make you like to know them better.

Those records always are yours for the asking—going back over years of time, in one section after another, across this wide country of ours.

So why not ask for them now? They'll come in handy the next time you have meter buying to do.

BUFFALO METER CO.
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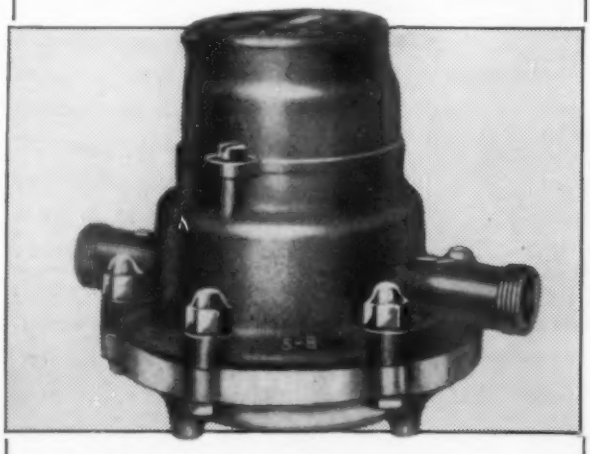


AMERICAN and NIAGARA WATER METERS

WHICH OF THESE CATALOGS WOULD YOU LIKE?

(*Continued from page 18*)

Zeolite Water Softeners

128. Form 307, recently issued by Graver Tank & Mfg. Co., Inc., 4822 Tod Ave., East Chicago, Ind., contains between its covers 8 pages of illustrations and text on the zeolite process of water softening, its practical application to municipal problems, and features of the Graver zeolite softener, with some excellent diagrams on the inside back cover and a partial list of Graver products on the outside back cover.

Chime Whistle Air Raid Signals

129. The distance at which any type of whistle can be heard is subject to geographical and climatic conditions. A number of cities on both the east and west coasts have already purchased Lonergan steam chime whistles for use as air raid alarms. Complete information may be secured direct from J. E. Lonergan Co., 210 N. Second Street, Philadelphia, Pa.

Bituminous Pipe Coatings and Linings

130. The Barrett Division, Allied Chemical & Dye Corp., 40 Rector Street, New York City, is distributing reprints of the paper "Mechanical Application of Bituminous Pipe Coatings And Linings," which was presented by Laurance E. Goit, Engineer of Water Distribution, Bureau of Water Works and Supply, Los Angeles, California, at the Toronto Convention of The American Water Works Association. Copies may be secured by writing direct to Barrett.

Steel Stacks and Water Tanks

131. R. D. Cole Mfg. Co., Newnan, Georgia, has been a tank building company for over 80 years, fabricating and erecting steel storage and elevated tanks, towers, kettles, bins, stacks, standpipes, and other fabricated plate-work to the specifications of the users. The latest issue of "Tank Talk," No. 6-A, gives you information regarding Cole installations.

Punched Card Accounting for Cities

132. The punched card method of accounting provides government administrators with up-to-the-minute fact pictures of activities, thus enabling them to maintain closer control. This modern method is now being successfully applied to the governments of many important American cities in such departments as police, education, taxes and assessment, finance, pensions and retirement, sanitation, central accounts bureau, comptrollers, park, water and power, public health, purchases, library, public works, and hospitals. Full information may be secured from International Business Machines Corp., 590 Madison Avenue, New York City.

Portable Light for Emergency Work

133. Homelite Corp., 201 Riverdale Avenue, Port Chester, N. Y., like many other manufacturers is delivering the greater part of its output to the armed services of the United States. Homelite portable generators, pumps, and blowers are still available, however, to emergency services of municipalities in a priority-governed number. To secure complete information write direct to Homelite.

A Permanent False Filter Bottom

134. The Wheeler false filter bottom for water treatment plants is of cast monolithic construction and, embodying only imperishable materials, is as permanent as the structures themselves. The manufacturer, Roberts Filter Mfg. Co., 600 Columbia Ave., Darby, Pa., invites inquiries from engineers and water-works officials who are interested in eliminating sand-bed troubles without using mechanical or hydraulic means to supplement the usual high rate water wash. Write to this company for technical information.

Park Settees and Floodlights

135. American Playground Device Co., Anderson, Indiana, well-known manufacturers of recreational equipment, would be pleased to send its price list of American park settees, a standard type used extensively in practically every large city in the country. The same bulletin also includes data on American floodlights for play areas and the American Castle Tower, a climbing unit built entirely of hot galvanized pipe, which will last practically indefinitely.

Parking Meters Withstand Blizzard

136. The Armistice Day 1940 blizzard in Minneapolis scarcely affected the Dual automatic meters installed on the streets in Minneapolis. In eleven months in 1941 more than 24,000 Dual Parking Meters were installed. Complete information regarding this revenue-producing device may be secured from Dual Parking Meter Co., Commerce Exchange Building, Oklahoma City, Okla.

Dependable Sewer Rods

137. Stewart sewer rods, sewer cleaning tools, sewer cleaning buckets, sewer cleaning machines, and root cutters are described in the complete catalog of W. H. Stewart, P. O. Box 767, Syracuse, N. Y. A copy of this catalog will be sent to you immediately upon application to the manufacturer.

Vol. LVII, No. 2 The American City February, 1942

How the Office of Civilian Defense Is Functioning and How Local Defense Corps Can Cooperate

By T. S. Walmsley
Deputy Director, Office of Civilian Defense, Washington, D. C.

THERE have been many persons who have been interested in civilian defense and who have talked about it without really knowing or understanding all phases of the work conducted by the Office of Civilian Defense. The Office of Civilian Defense was established by Executive Order of the President on May 20, 1941. Its duties and responsibilities were clearly defined. They include:

1. Coordination of federal, state, and local civilian defense relationships
2. Planning and carrying out programs designed to protect civilian life and property in event of emergency
3. Promoting activities designed to sustain the national morale and to create opportunities for constructive civilian participation in the defense porgram

To help in the performance of these duties and responsibilities, two advisory bodies were created. A Board for Civilian Protection, consisting primarily of representatives of interested federal agencies, was established as the body to advise on methods of civilian protection. The Volunteer Participation Committee, composed of forty-five persons appointed by the President, was established to assist the civilian participation program.

While the Office of Civilian Defense is charged with coordinating federal, state, and local civilian defense relationships, it has no authority to compel any state or locality to follow its dictation. It can request or recommend, but it cannot compel the adoption of any policy or program. This has been a decided handicap, since some did not see the desirability or necessity for civilian defense and were not disposed to cooperate fully on the program of civilian protection. This was particularly true of the councils which were organized primarily to secure defense contracts for their states and municipalities.

The attitude of some members of Congress, as well as some governors and mayors, not only caused delay in the proper organization throughout the United States, but some of them even belittled the efforts of the Office and refused to cooperate in the full development of civilian defense, as shown by public utterances on the radio, in meetings, and in the press. To overcome this, educational work had to be carried on by the Office of Civilian Defense in order to effect a breakdown of this attitude toward OCD before proper progress could be made. Accordingly, a progressive campaign was planned and launched by the Office of Civilian Defense.

To establish the closest possible working relationship between the Office of Civilian Defense and state and local defense councils, OCD decentralized its operations by establishing nine regional offices, each to service a Civilian Defense Area, coterminous with one of the Army Corps Areas. The regional offices are located in the same cities as the Corps Area Headquarters.

Protective Services Developed

Realizing that the practice of the aggressor nations has been to strike without warning and to discuss matters later, Director Fiorello H. La Guardia felt it incumbent upon him to develop immediately the full protective services for civilian defense. In doing this, he knew he was ahead of not only American public opinion, but also the thinking of many members of Congress and of most state and local officials.

While realizing that the other phases outlined in the Executive Order of the President were desirable, the Director placed special emphasis on developing the Training Section and the work of civilian protection, as he felt there was no time to lose. The Training Section was organized to prepare instructional materials. Research work was conducted, and two missions were sent to England to study and observe methods and techniques of handling civilian defense.

On the basis of an actual survey of requirements made last August by the Director, a proposal was submitted to Congress for the appropriation of funds with which to provide auxiliary fire-fighting equipment, emergency medical supplies, gas masks, and other materials which were considered essential.

Equipment and Supplies	Costs — Pre-War Plan	Costs — Current Plan
Auxiliary Fire-fighting Equipment	$57,338,842	$51,512,867
Miscellaneous (Medical Supplies, Protective Clothing, etc.)	13,069,927	13,069,927
Gas Masks for Civilians	26,548,014	167,304,899
Totals	$9,956,783	$231,887,693

The increase in costs is occasioned largely by the item of gas masks. The pre-war plan provided

for creating facilities which would permit procurement of 2,500,000 masks per month, thus taking care of preparations to go into rapid production. The current plan demands the manufacture of 51,750,000 masks, maintenance of same, and their issuance to civilians in the so-called target areas as quickly as possible.

The auxiliary fire-fighting equipment requested is the type of equipment which municipalities cannot afford to buy, but which is absolutely essential because of the war. The Office of Civilian Defense felt that here was an expense which should be borne by the Federal Government and the burden not placed upon municipalities.

Guarding Vital Facilities

In addition to the appropriation request which has gone to Congress, studies were made of necessary steps which must be taken for the protection of vital facilities such as dams, bridges, tunnels, forests, and the like, which are vulnerable to enemy attack from within or without. Protection of our resources and of communication and transportation services is essential for utlimate success.

The office of Civilian Defense requested the War Department to order into being the battalions of U. S. Guards authorized by Congress for this contingency.

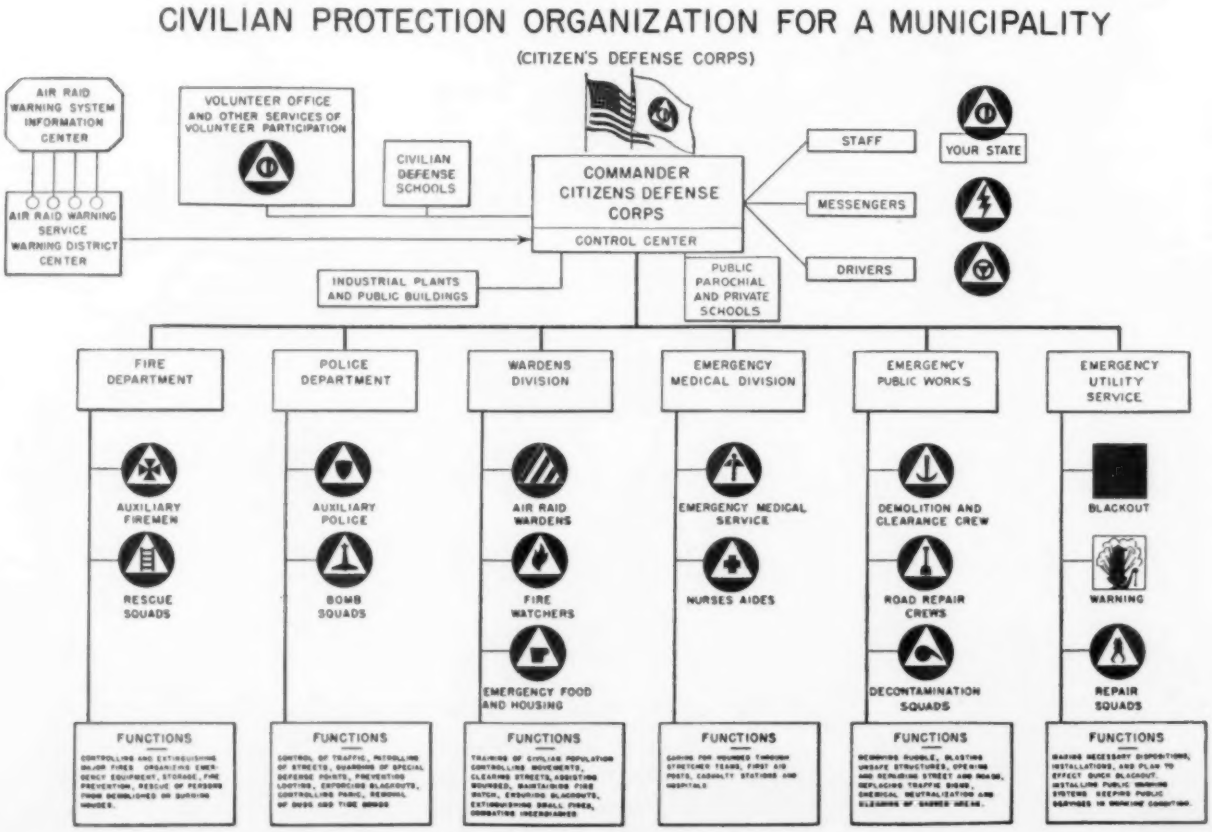
A request was made in August by Director LaGuardia for money so that necessary steps could be taken for civilian protection in Hawaii. Unfortunately the funds were not made available until after Pearl Harbor.

As a result of the training program developed by OCD, a school was set up at Edgewood Arsenal to train policemen and firemen for instructors. These men were selected from various cities and sent to the school. Eleven classes of 50 men each were held there, and now eight additional schools in other locations in the United States have been planned. A great deal of time has been given by the Office of Civilian Defense to the protection of industrial plants and buildings. Special study had to be given to this problem, inasmuch as it was essential that vital facilities of a municipality should always be kept going in spite of blackouts, raids, and sabotage. More than 6,000 inspectors working for various insurance companies are tied into the program of plant protection, and schools have been organized along our coastlines for this particular purpose. Flying squads of specially-trained experts have been sent to the west coast in order to meet the emergency there.

Civil Air Patrol

The Civil Air Patrol has been established by the Office of Civilian Defense in cooperation with the War and Navy Departments and the Civil Aeronautics Administration of the Department of Commerce. The aviation planning staff includes representatives of the Army Air Corps, the Naval Air Service, Civil Aeronautics Administration, and the Office of Civilian Defense—the five outstanding civil air men of the nation.

The National Commander of the Civil Air Patrol is Major General John F. Curry, United States Army Air Corps, assigned to OCD for this purpose. The Army Air Corps has



assigned nine Air Corps officers to act as Regional Commanders. The organization is highly desirable in wartime because it makes available to the nation a strong civil army able to perform many duties now performed by the armed branches, but easily capable of assignment to civil pilots. It is known that the armed services and the Civil Aeronautics Administration have specific assignments they desire the Civil Air Patrol to undertake as soon as organization makes this possible.

The volunteer participation organization within the Office of Civilian Defense which deals with civilian participation is an essential part of the defense effort. It is responsible for the recruitment of individuals and their assignment to the proper civilian defense services. It has emphasized the necessity of creating, in connection with each local defense council, a volunteer office to which volunteers can go for information about the defense program and through which they can be enrolled and assigned for training in the various services.

One of the most interesting plans that will be getting under way in the next few weeks will be the development of the Victory Gardens. The Victory Gardens were quite popular during the last war. It is to be hoped that many of the mistakes made by attempting to raise vegetables and gardens on soil that could not possibly produce anything will not be repeated this spring. Before individuals attempt to raise vegetables, they should know what the soil can and will produce so there will not be a waste of valuable time, with subsequent heartaches and disappointments. In this respect each person should get a proper analysis of the soil from the Department of Agriculture and the agent within the county or parish in which he is living.

Some figures showing the progress achieved in the last few months may be of interest. On October 1 there were approximately 3,600 local defense councils, with about 300,000 enrolled personnel. On November 1 there were 5,549 local defense councils, and 753,407 enrolled personnel. There are now over 7,000 local defense councils and more than 4,000,000 enrolled workers. Each day brings ever-increasing reports of the establishment, training, and effectiveness of local organizations to carry on the civilian defense services for which civilians are preparing themselves.

$100,000,000 for Municipalities

Congress has authorized an appropriation of $100,000,000 to be used in municipalities for fire-fighting equipment, emergency medical supplies, brassards or armbands, and helmets. This equipment will be issued by the Office of Civilian Defense through states to the localities, the allocation being pre-determined by OCD according to a survey indicating the needs. The municipalities should now see to it that they complete their organization and start full training within their communities along the line of the Citizens Defense Corps as indicated in the accompanying chart. With this setup and the training required by the Office of Civilian Defense, there is no reason why a municipality should not feel proud of its defense effort.

• • • —

City Hall, the Citizen, and Defense

II. Making Civilian Defense Effective Locally

By PHILLIPS BRADLEY

AFTER two months of war and heavily increased civilian defense activity, it is time to take stock. Belief grows that we are not going to have any intensive and continuous bombing, even in our seaboard towns and cities. Many volunteers are already beginning to wonder whether the effort they are putting in is worth while. The problem of maintaining morale is looming up as the central question which civilian defense leaders face in their day-to-day work. What are some of the present issues on the morale front of civilian defense organization and activity?

City halls throughout the country have two jobs just ahead—jobs which their locally organized Civilian Defense Offices can do effectively and should do promptly. One of these jobs is to direct the volunteers' loyalty and enthusiasm toward civic service and community needs. The other is to organize the infiltration of women into industry—a process that will accelerate in the months just ahead—with the greatest efficiency and the least dislocation of family and group life.

What to Volunteer For?

Last month, some problems of organizing an effective local Civilian Defense Office were outlined. As the pace of volunteering has increased, most such offices have begun to experience a bottleneck between enrolments at the start of the volunteers' service and training and placement as it proceeds. This bottleneck—certainly in the middle and larger-sized cities—results from two major causes. First, the supply of training facilities, both public and private, has often not kept pace with enrolment demands. Second, the character of available training courses has not always been geared to the needs either of direct civilian defense services or of general civic and community requirements. Many volunteers have not found the right niches in which to serve or have been assigned to training and active civilian defense work for which they are neither fitted nor inclined. How can this current prob-

lem of most local Civilian Defense Offices be met most effectively?

Even Flow in the Civilian Defense Office

The first point at which to break this bottleneck is inside the local Civilian Defense Office. Close working relationships need to be established between enrolment and placement. Work opportunities should be routed through a central clearing desk in the placement section of the Office, and a coordinated account of all these opportunities submitted daily (or weekly in smaller communities) to the enrolment section. Similarly, the training section should know about work opportunities open in the city in order to insure adequate training classes. It should also inform both the other sections about training classes organized by public and private agencies. If an even flow of training classes and work opportunities can be maintained at a rate to cover enrolments, the first step in breaking the bottleneck will have been taken.

To accomplish this even flow within the local Civilian Defense Office, there is urgent need in most for a small, full-time, paid staff to carry day-to-day responsibility in order to provide training and supervision for volunteer CDO workers. Where this is impracticable, a small planning and supervisory committee should be set up to include several staff workers who are able to give considerable time to the Civilian Defense Office. In this way, problems of organizing and maintaining an even-flow program within the Office will be brought to light early enough to tackle them effectively.

Two examples will illustrate the point. Training classes—those conducted by public as well as private agencies—need effective and competent instructors. In what ways can the local Civilian Defense Office aid these agencies to find persons best able to handle particular training courses—and perhaps to train these teachers to teach most effectively? What checks should the CDO exercise over the instructors and course outline appointed and proposed by private groups and agencies? Should the Civilian Defense Office recognize courses offered by spontaneous groups which have not been reviewed and approved by it? How can the quality of instructors be checked? It is questions of this sort which need a uniform policy to clarify and strengthen civilian defense activities in the community.

Again, in enrolment and placement work, volunteers should be routed first to public air-raid services—within the limits of their needs. How many specialized services should be established and trained in your city or town? How can the Civilian Defense Office help the public agencies (police, fire, sanitation, etc.) and the Red Cross in developing effective training programs? What proportion of all volunteers are needed for these services—as compared with general community services? CDO can render its most useful service in this field by applying the answers to these questions from City Hall in its day-to-day enrolment and placement work. In many cities and towns today, there is a glut—or a bottleneck—as to the public agencies which City Hall and CDO can clear cooperatively if they will.

A Community Service Audit and Budget

So much for the problem of meeting immediate community needs from the point of view of the Civilian Defense Office itself. What of the longer-range aspects of civilian defense? How can a local Civilian Defense Office develop a program for improving and expanding civic service to match community needs? Is civilian defense a matter of bombs alone—or of developing a new neighborhood morale?

People are beginning to ask those questions already. Before many months, unless we do have some bombings over here, they will be the most urgent questions facing every City Hall and Civilian Defense Office in the country. In the smaller towns and cities, the question is not perhaps so urgent—because many of these communities have taken civilian defense in their stride, have organized their activities within the regular pattern of life, have already put Civilian Defense Offices to work at community problems.

In the larger communities, however, the Civilian Defense Office can—and should—carry out an effective community audit. The placement section has an unrivalled opportunity to catalog civic services, public and private, in all the areas of community need. From a catalog of existing services an audit of their requirements, present and future, can easily be developed—from their own specifications. From the audit, a budget of community requirements and resources can be established. The Civilian Defense Office is, in fact, an almost ideal agency for developing a continuing mobilization of civic service for community needs. It can become—now and in the future—a central exchange for coordinating the work of public and private agencies and for enlisting the service-loyalty of all citizens, young and old.

The Next Call—Women in Industry

An immediate task lies just ahead in American defense efforts. As men are drawn away from industry to the armed forces, an increasing number of women will be needed to take their places in the arsenals of democracy. Calls have, indeed, already gone out from various industries.

To make the transition efficient and to prevent individual social and economic dislocations, such as a mass transfer of women into industry as is likely to bring about, adequate planning and training are essential. CDO in industrial cities can play a vital part in selecting and training the new volunteers of industry. We should get on with the job now through these offices. Plans should be drafted; training programs established in cooperation with the schools and with industry; effective home and nursery aid should be programmed through the Civilian Defense Offices. If this is done before the demand becomes acute, we shall be planning our civilian defense more effectively—and our support of the armed forces more surely.

EDITORIAL NOTE.—For other suggestions by Professor Bradley as to "Organizing a Local Volunteer Civilian Defense Office," see THE AMERICAN CITY for January, 1942, pages 50-51.

A Wartime Message to Their Fellow Citizens from the Mayor and Counsellors of New Zealand's Capital City

A MESSAGE TO CITIZENS OF WELLINGTON

Convinced that moral and spiritual forces are the true basis of national life, and feeling that the following messages may help to strengthen these forces in each of us in this time of crisis, the Mayor and Councillors of Wellington, whose signatures appear hereon, commend them to their fellow citizens.

•

T. C. A. Hislop

Will Appleton — *Chas. M. Bowden* — *W. Duncan* — *Malcolm Fraser*
W. Jas. Gaudin — *E. M. Gilmer* — *Martin Luckie* — *R. L. Macalister*
Leonard McKenzie — *R. H. Nimmo* — *I. D. Sievwright* — *W. Stevens*

R. A. Wright

•

MORALE

OTHERS NEED YOUR HELP

In days of tension forget yourself in helping your neighbours. Give them friendship. This will cast out your own fears and worries. Assist your fellow-citizens to carry out cheerfully and efficiently all the duties and restrictions inevitable in war-time. Start the day with the questions: How can I help somebody else to-day? What extra service can I give my country to-day?

AS I AM, SO IS MY COUNTRY

National morale is built up from the countless moral victories of every loyal citizen. Strengthen the home front by strengthening the moral and spiritual front in your own life.

SAFEGUARD THE NATION'S CONFIDENCE

A nation's strongest line of defence is the character of her citizens. Material and physical defences will not long avail unless behind them stands a people strong in spirit. A country rich in faith is rich in everything. Restore faith and you build strength. Develop character and you build greatness.

Faith, confidence and cheerfulness are as contagious as fear, depression and grumbling. Which are you spreading?

THE KEY TO STEADINESS AND INNER STRENGTH

is to have confidence in God and to accept direction from Him. The voice of the Spirit is the voice of God. Each of us can listen for himself, and listening, obey. The call to our citizens is to return to their robust faith in His power of guidance.

FAITH

Cling to your inborn belief that there is a Higher Power and that whatever happens on this earth will be weighed in the scales of eternal justice.

IN THOUGHT, FAITH ★ IN WORD, WISDOM ★ IN DEED, COURAGE ★ IN LIFE, SERVICE

"I said to the man who stood at the gate of the years 'Give me light that I may tread safely into the unknown.' And he replied 'Go out into the darkness and put your hand into the hand of God. That shall be to you better than light and safer than the known way.'"
—(M. L. Haskins.)

The filtration plant and chemical building, largest unit in the new Lake Erie water-supply system for Toledo, Ohio

Glass Features Construction of Toledo Filtration Plant

Change from Maumee River Supply to Lake Erie Water Cuts Hardness in Half and Gives More Uniform Quality

IT IS reasonably estimated that the new Lake Erie water-supply system for Toledo, Ohio, will save householders in the city approximately $600,000 a year in soap and softeners. Broken down, this represents a saving of $1.85 per person. The city government will spend $36,000 annually to treat chemically the new lake-water system in contrast to $105,000 a year which has been expended on the Maumee River's raw supply.

Other savings are numerous. The cost of fire protection, because of the great volume of the lake supply, is an important factor. For industries, the extra cost of incrustation in pipes and boilers due to hard river water will be eliminated. The wear and tear on garments will be lessened to the point where every family member will notice the longer life of his clothes.

The New Supply

After having been seriously considered as the desirable source of Toledo's water since 1903 when the first report on the proposal was made, the Lake Erie project was approved by popular vote in August and got under way in the autumn of 1938. The main reasons for tapping Lake Erie instead of continuing to use water from the historic Maumee River which flows through the city are fourfold:

1. Water from the lake is on the average one-half as hard as that from the river

2. Lake Erie water is of more uniform quality, therefore more easily treated

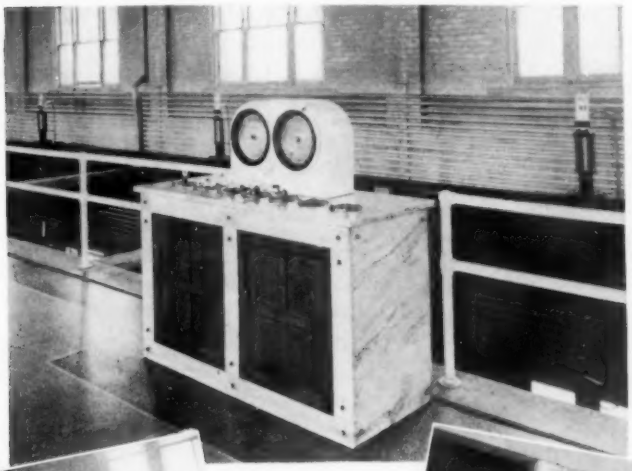
3. The lake has 1/50 the pollution of the river

4. The city's water supply from the river was jeopardized whenever a high wind lowered the level of the lake and reduced the flow at the intake

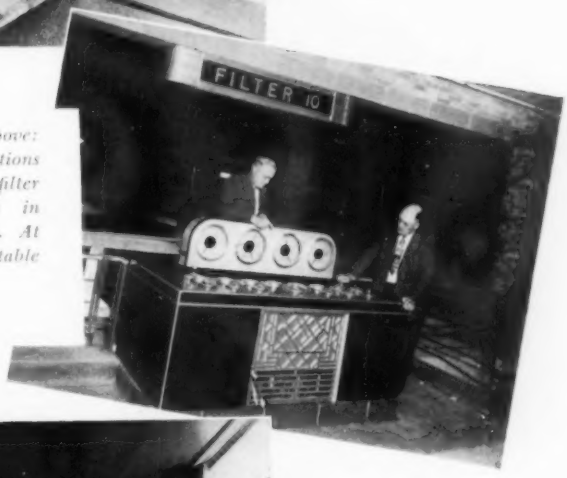
The job was completed in the fall of 1941 at a cost of $9,884,463, the city paying 55 per cent of the expense through revenue and general obligation bonds, and the balance paid through grants from the Federal Public Works Administration. The project will liquidate itself. Bonds against it represent no tax increase, since they will be paid out of revenues from the 70,000 consumers in the Toledo water district. The largest consumer pays a water bill of $108,000 a year, while many small ones pay 60 cents a month.

Although the system will serve only 325,000 people at present, it was constructed to take care of a city of 750,000. The crib—two miles out in the lake—and conduit are capable of providing an adequate supply of water for Toledoans in the year 2000.

The Lake Erie water-supply system comprises eight major parts, the first of which is the intake crib, fifteen miles from the center of Toledo. Water in this area shows little influence of bacterial pollution by the Maumee River. The crib is circular, 100 feet in diameter at the bottom and 83 feet across at a point 3½ feet above mean lake level. It was constructed within a coffer-dam consisting of 16 cylinders, each 30½ feet in diameter, and two closure cells formed of interlocking steel sheet piling driven to a depth of 18 feet below lake bed. After the crib was finished, the cylinders of the coffer-dam adjacent to the concrete substructure were sheared off at lake bottom. The walls of the crib are reinforced concrete 20 feet thick at the bottom. Sixteen ports, each 10 feet square, through the lower portion of the structure, admit water into a central well 60 feet in diameter. Near the well's bottom is an inlet with a 12-foot diameter to the intake conduit, which stretches 15,500 feet to the low-service pumping station on land. Powered by elec-

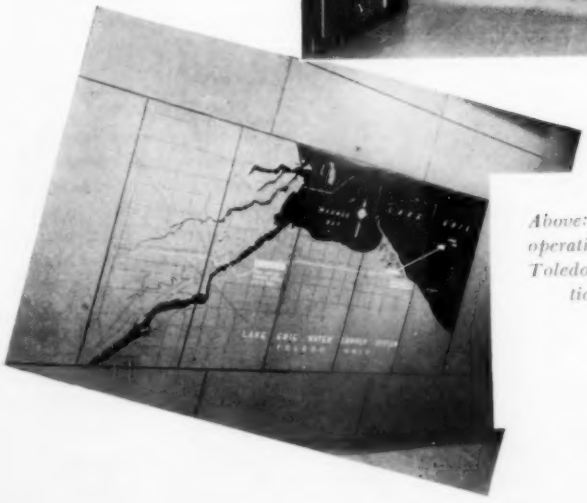


At left and above: typical installations of Norwood filter control tables in 1910 and 1920. At right: the 1911 table



***Below: a map of** the water supply system sand-blasted and painted on glass*

Below: the well-equipped laboratory where the use of special glass in the windows lessens the heat from the southern sun



Above: the main operating gallery of Toledo's new filtration plant

trically driven centrifugal pumps, the station has a capacity of 150,000,000 gallons daily.

At this pumping station, the water is lifted and forced into a pipe 78 inches in diameter and then carried 9 miles to the chemical building and filtration plant in East Toledo. From there after treatment it is pumped into the mains under pressure from the high-service pumping station for distribution to consumers.

In the chemical building, the water is treated with lime, alum, and activated carbon prior to filtration. Owing to the high purity of the lake supply, less than one-third of the amount of chemicals needed for the river water will be required.

Treatment Buildings

The comfort of the laboratory personnel and office workers in the chemical building has been considered. Heat-absorbing plate glass is used to glaze the windows, which in the main face south. This special plate glass removes approximately 50 per cent of the solar heat from the sunlight passing through the windows. Since the laboratory counter and sinks are in front of the row of windows, the chemists are protected from the beating infra-red rays of the sun while they work. Their vision is not restricted, because Libbey-Owens-Ford heat-absorbing glass is clear.

Mixed with chemicals, controlled by the laboratory staff, the water goes to the reaction and settling basins. There is a 45-minute mixing period during which about 95 per cent of the applied chemicals and impurities settle to the bottoms of the basins. The water is then filtered to remove the remaining 5 per cent of coagulated matter.

Twenty filters, each of which has a daily capacity of four million gallons, are on each side of the main gallery in the filtration plant. The water passes down through 30 inches of specially selected silica sand and 18 inches of graded gravel. The 5 per cent of impurities is caught in the first few inches of filtering sand and is removed when each filter is washed by pumping filtered water from the bottom to the top with sufficient pressure to separate the sand and the deposited matter. After filtration, a small amount of liquid chlorine is applied for disinfection and the "cleaned" water goes to the underground 35-million-gallon storage reservoir from which it is pumped under a pressure of 75 pounds.

At the end of each filter are the control tables made of black Glastone, a masonry unit faced with gleaming Vitrolite structural glass manufactured by Libbey-Owens-Ford. The installation marks the first use of Glastone for anything of this nature.

More than 5,000 square feet of this new glass-faced, load-bearing structural unit were used in the three water-works buildings. In addition to being employed for the control tables, Glastone frames the entrances and forms the walls for vestibules, stairways, and lobbies. In the chemical wing of the filtration plant a map of the whole Lake Erie water-supply system, which attracts every visitor, is sandblasted in the cadet blue Glastone and painted. Approximately 20,000 square feet of various types of L-O-F flat glass were installed. Besides Glastone and heat-absorbing plate, satinol Flutex patterned glass was used over fluorescent lighting tubes, colorful Vitrolite structural-glass panels the walls of lavatories, and wire glass was employed for obscure glazing.

Personnel

All work on the project was carried on under the direction of George N. Schoonmaker, City Manager and Chief Water-Works Engineer. Robert W. Furman, Water Commissioner, was in close touch with the design of the filtration plant and the development of the project, and William G. Clark, acting as Supervising Construction Engineer, was in charge of the project. Mills, Rhines, Bellman & Nordhoff, Inc., of Toledo, were consulting engineers with Greeley & Hansen, Chicago, who prepared plans and specifications.

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Disposal-Plant Grounds Beautified at Small Expense

HICKORY, N. C.—The new sewage-disposal plant of the city of Hickory was located on a worn-out, gully-filled field littered with old automobiles and other junk. However, the field was surrounded by beautiful timber land, except on the west side which faced a lake of the Duke Power Company.

Last winter the Hickory Rose Society, whose officers recognized the natural beauty of the location, decided to plant a rose garden on the site, and asked for the city's cooperation. The old automobiles and other junk were crushed with a street roller, the gullies were filled, the ground was graded, and a beautiful rose garden of 4,400 rose bushes was planted.

Within less than six months, the old eyesore had become so attractive that on one Sunday alone more than 2,000 people from 31 different cities and 9 different states visited the garden. Besides this, every patient in the hospitals in Hickory, regardless of race or social position, was given a vase of roses each week.

All this has been done with very little expense to the city of Hickory. A committee of the Rose Society, consisting of C. W. Bagby, H. D. Althouse, and C. L. Hunsucker, arranged the donations of all the rose bushes; the bushes were planted by city employees at the disposal plant, during spare time and fertilizer for the bushes was obtained from the sewage sludge at the plant; the roses are cut once a week by a committee from the Rose Society, and the flowers are delivered to the hospitals by city employees.

The rose garden is a place of beauty, and the constant stream of visitors to it has caused the disposal-plant employees to perform their work more efficiently.

WALKER LYERLY,
Mayor.

"The time is bound to come when not only will beauty be recognized as a marketable commodity to be sold to the few who know and have the price, but public taste, the sensibilities of civic pride, and the pattern of life in our cities will make civic beauty as essential a condition of communal living as are the abolition of the slum and the control of pestilence."

CAROL ARONOVICI

A Wartime Message to Mayors and Other Local Officials

There Are No Insurmountable Fiscal Barriers either to a Victorious War or to Post-War Urban Redevelopment

By MARRINER S. ECCLES
Chairman, Board of Governors, Federal Reserve System

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YOU, as executives of your cities, have a responsibility not merely to your own communities but to the nation at large. By clearly understanding the economic forces and problems of the country, you can contribute immensely to their management and solution. You will agree no doubt that poverty and distress are the breeders of crime and disease in your cities, that the goal of democracy is the steady improvement in the standard of living of your people and of all of our fellow citizens. Your energies and best thought must be bent upon progressive improvement, for certainly no informed man will say that our civilization has reached the peak, that our economy has come to a stagnation point, or that the future does not hold infinitely greater potentialities of human happiness than the past. It is only the blind men through history who have thought of their day as the golden age and failed to understand that we have only begun to make progress along the road of human betterment.

But while we all accept readily enough these philosophic conceptions of a better future, we fall out among ourselves when it comes to intelligent action and planning to make the dreams of a better day a reality. And we disagree mainly because we fail to understand the economy in which we live and the way it can be made to function. We can budget our economy to produce fully for war. There is no earthly reason why we cannot do the same in peace with infinitely fewer complications and dislocations.

The basic problem is one of intelligent management. That means balancing the federal budget on a basis of business accounting or reducing public debt when we are at full production. In wartime the federal budget cannot be balanced, which makes it all the more necessary that all other public budgets be balanced as one offset against the inflationary effects of federal expenditures. Those of us who have long advocated compensatory management of public budgets as a means to stable economic progress and, indeed, the very preservation of our democratic institutions, come in for a variety of reproaches. A favorite one is to the effect that we regard public debt as a blessing. Any such superficial criticism would scarcely deserve notice were it not that so many people fail to understand the functioning of the debtor-creditor system under which we live. They fail to see the potentialities of national economic welfare in wise budgetary management and fail to realize that debt is a relative thing. The British public debt, for instance, has continued to rise for the past three centuries, but at the same time the wealth, incomes, and standard of living of the British people have risen far more. While our own debt is by no means a blessing, our national income and living standards have risen much faster than the debt in the last decade. The prospect of the enormous war debt need not alarm us so long as we have the wisdom and the will to offset its inflationary effects. Moreover, so long as our debt is owed to our own people and the income from it is not tax free, our problem is mainly one of servicing the debt.

The President stated the matter very simply in his Budget Message. The federal debt, he pointed out, will increase to at least $110 billions within the next three years. This means that the servicing of that debt at approximately the present levels of interest rates will require $2.5 billions a year. As the President said, "Paying 2.5 billion dollars out of an extremely low national income would impose an excessive burden on taxpayers while the same payment out of a 100-billion-dollar national income, after reduction of armament expenditures, may still permit substantial tax reductions in the post-war period." And he added significantly, "Our capacity to carry a large debt in a post-war period without undue hardship depends mainly on our ability to maintain a high level of employment and income."

The very large federal debt that will be incurred as a result of the war, and even the war itself, will only have been in vain if we fail to learn the lesson that we did not understand after the first World War. For not only did we fail then to join other nations in organizing for lasting peace, but we failed to establish the very foundations of that peace by providing economic security and stability for ourselves and indirectly for other nations.

Spiritual Values and Material Well-being

I have ventured to say before, and I want to repeat again, that we are not proposing to save democratic institutions and free enterprise in order to produce another era of economic misery and general unemployment. We are fighting to preserve our institutions because we believe them to be the best adapted for producing the greatest good for the greatest number. That means not simply spiritual values—vitally important as they are—but material well-being. That, in turn, means full production of all the necessary, useful, and good things

of life that our inventive genius and our mechanical capacity are capable of turning out, not for a privileged few but for the masses of mankind. We have made some progress toward minimum standards of consumption. We must make much more after peace is restored.

We must enable all members of the community to have the minimum food requirements necessary for an adequate nutrition standard. Our entire population should be supplied with public health services and with hospital and medical care sufficient to overcome preventable disease. Likewise, decent housing must be provided for the entire population on a basis adequate to insure modern sanitation and health conditions and to afford living quarters commensurate with modern standards. Similarly, we should provide minimum educational standards for our entire population, whether they happen to live in poor backward communities or in the richer advanced states, and in addition we should provide advanced educational opportunities for the gifted members of the community without regard to the income class in which they happen to be born.

By the same token the replanning of our cities, the reclamation of slum areas, the extension of super-highways, the development of recreational facilities are all part of the better future which we can and must provide. Not only are all these things possible within the framework of our institutions, both political and economic, but they are essential to preserve and vindicate all that we are fighting for. You will understand, of course, that what I am saying applies to the post-defense period. In the interim, as long as we must make the supreme war effort, the standard of living of all of our people, except those already at the subsistence level, must gradually decline.

Necessity for Urban Redevelopment and Housing

I have mentioned briefly various post-defense projects, but I should like to discuss a little more fully with you the necessity for urban redevelopment and housing, because it is possibly of greater economic and social importance to the country than any other post-defense subject.

The story is much the same in all our large cities—many decades of unplanned, haphazard growth, beginning with the development of a downtown business center surrounded by good residential neighborhoods; then expansion of the business area and removal of the residential districts farther out; infiltration of industries; the resort to zoning; the advent of rapid transit and the further shifting of the population to the surburbs; and finally the spreading of zones of blighted areas around the business centers and sub-centers, with all that has meant in tax delinquencies and stagnation of improvements.

Meanwhile, as so many of you know, the cities have faced an increasingly acute financial problem in providing municipal services, including streets, police and fire protection, water supply, etc., for the expanding suburban areas, which sometimes have become separate municipalities with the resultant loss of tax revenues to the parent city. I mention this familiar picture only because it opens up an enormous avenue for a well-planned future improvement program that must be undertaken primarily with federal help in the post-war era.

Legal Powers Needed

The two chief obstacles that must be overcome involve, first, the granting to the cities of increased powers from the state to assure permanent control over their metropolitan areas and, second, the obtaining of adequate legal powers of condemnation to take over the blighted areas. This latter task can only be financed with the aid of the Federal Government. It is something that we must plan for even while we are at war if an intelligent attack on the problem is to be made after peace comes.

Let us suppose that the various cities and towns have obtained from their states the legal powers I have referred to; that they have then proceeded, with such help from the Federal Government as was necessary, to draw up long-range plans, each for the entire metropolitan area; that these overall plans, one by one, have been examined and found satisfactory by an appropriate agency of the Federal Government. The local government would then begin by defining the worst of its slum and blight areas with a view to acquiring all the real property therein, either by purchase or through condemnation. It would then apply to the federal agency for a loan, if need be, large enough to cover part or all of the acquisition cost. Such cities as could afford it should greatly lessen the amount of federal participation by making larger contributions themselves.

The federal loan would be granted on three main conditions:

1. *The acquired properties should be used or leased (not resold) only in accordance with the approved plan as from time to time developed.*

2. *The ground rents for the leaseholds should be based reasonably on the future use-value in accordance with the plan, irrespective of what it has cost to acquire the land.*

3. *The local government should repay the federal advances out of their own subsequent receipts from leasing such of the land as is not used for public purposes.*

It is quite clear to students of the problem of blight that the areas involved are for the most part suitable only for residential purposes. Some of the land, of course, would be used for public purposes, such as new street layouts, parks, playgrounds, and the like. Some might very well be needed for reorganized and relocated transportation terminal facilities. Probably a small portion might be required for incidental business structures. But mainly the land should be used for residential purposes — for everything from high-priced apartments to low-cost housing. Generally speaking, the geographical locations are ideal for the purpose. This is immediately evident if we can forget the present dismal surroundings. Whether on the whole the effect might be to arrest the flight of population to the suburbs, it is a certainty that there are large numbers of people who would prefer to live within walking distance of their work if they could do so in pleasant surroundings, rather than to travel for an hour or so every day to and from their dwellings.

Preparation Must Begin Now

Subsidiary to the entire program of replanning and rebuilding, all the activities of the Federal Government with respect to urban housing should be reorganized and rationalized. Among other things, an extensive program of research and experiment should be inaugurated to tackle the entire problem of producing a good low-cost dwelling unit—low-cost in terms of what the occupant has to pay to live in it. This would require a thorough overhauling and reorganization of the residential construction industry, to bring its level of efficiency up to something comparable to that reached in other countries and by our other great basic industries.

You, as mayors of the cities, are all concerned with what can be done, primarily for the cities and towns in the period after the war. Equally desirable and valuable programs should be undertaken for the rural areas as well. Although all of these plans look to the future, preparation must begin now. Nor do I think it wholly inappropriate, even in these grim days, to keep before us a vision of the future as an inspiration and a symbol of what it is we are fighting for.

Municipal Expenditures and Taxes in Wartime

As you all know, the enormous military demands for materials and man power have made it necessary for the President to call upon the public to reduce its expenditures and thus to release resources urgently needed for war purposes. The same considerations should lead government at every level, federal, state and local, to reduce or postpone all expenditures that are not essential for the war effort and maintenance of civilian morale. Public works, all plans for capital improvements, should be deferred so far as possible until after the war, when such expenditures can be timed to stimulate production and maintain employment.

There is one exception to this rule so far as your cities are concerned. In those communities experiencing rapid expansion because of defense activities and the influx of population, it is manifestly impossible to curtail—for you must extend police and fire protection and all the other essential public services needed to take care of this sudden but probably temporary growth. Because in all probability this growth is not permanent, part, if not all, of the costs of extending public services should be treated as defense work and thus should be financed with federal help.

Otherwise, it is urgently necessary that you practice every economy consistent with the maintenance of essential services. This does not mean that you should reduce local taxation, however plausible that may seem at first. For to the extent that you reduce local taxation, you negative what the Federal Government is seeking to accomplish in controlling inflation through increasing federal taxation. The taxpayer's contribution to the war effort is made by reducing his personal expenditures for goods and services, thus aiding in the shift of economic resources to military purposes. To the extent that the federal tax pressure upon the taxpayer is offset by reduction of state and local taxes, the economic purpose of the federal tax program is defeated. Accordingly, instead of reducing local taxes, you should maintain them, thereby enabling you to pay off your public debts. If you have no such obligations, then invest the funds in government securities, thus helping to finance the war. This is the time to pay off or reduce local public debts as well as private debts, thereby helping to offset the inflationary factors arising from expansion of the federal debt, while at the same time building up a credit reserve for use in the post-war era. Repayment of your securities would make available to those who hold them funds which they could invest in government securities. Indeed, you have a rare opportunity for a major achievement in financial statesmanship. I hope that the opportunity will be grasped.

There may have been a day when you were so self-centered and self-contained that you could get along by yourselves, but that day has long since gone—your welfare and your public lives are bound up with the national well-being. You must know and understand what will help or hurt the national economy. You must be prepared to shape your policies and actions in accordance with national objectives, programs, and policies. You must more than ever before take care that the taxpayer's dollar is efficiently used. You must have a responsible civil service. You must have, in short, the confidence of your citizens that the affairs of the city are run as efficiently and intelligently as is required for the survival of competitive private business. That is certainly not only possible but essential—and it happens to be the best politics as well.

—From an address before the United States Conference of Mayors, in Washington, D. C., January 13, 1942.

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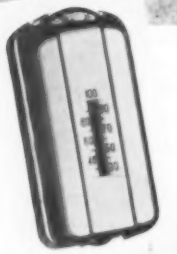
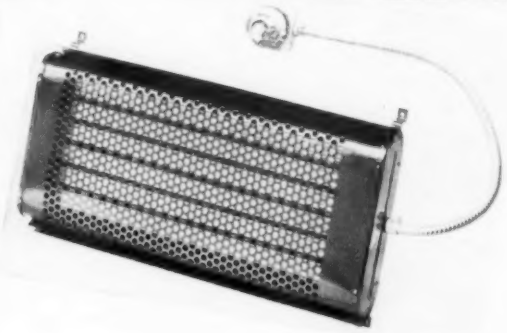
Chlorine for Water and Sewage Treatment Not Restricted

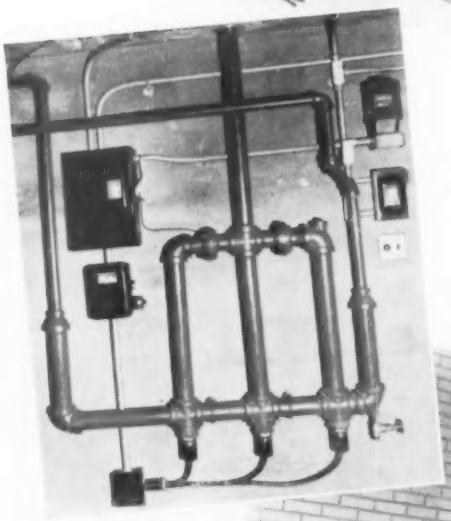
NECESSARY amounts of chlorine for water purification will be provided throughout the nation despite the general chlorine shortage, the Chemicals and Allied Products Branch of the War Production Board announced January 27. Chlorine in all forms for potable water and sewage treatment is given a high preference over civilian and some war uses. This preference will permit water and sewage plants to obtain necessary supplies of chlorine and sodium hypochlorite.

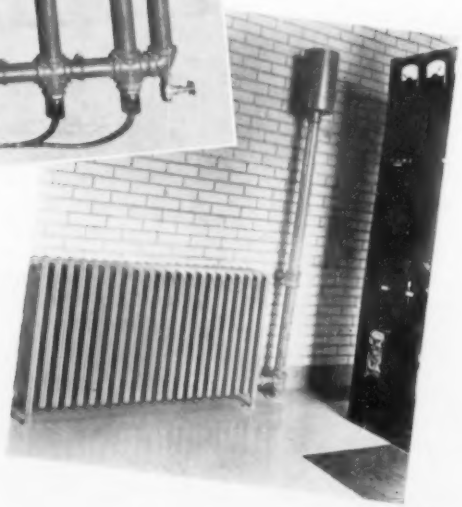
High-test calcium hypochlorite and chloride of lime are at present more scarce than chlorine and sodium hypochlorite. For that reason, the Chemicals and Allied Products Branch says, it may be necessary that those plants which use these scarcer materials change to one of the latter. This will not impair sterilization efficiency, as chlorine, sodium hypochlorite, chloride of lime, and high-test calcium hypochlorite can be used interchangeably for these purposes, it is pointed out.

For a discussion of other phases of the problem of priorities for municipal needs, see page 5 of this issue.









Heating Service for Isolated Pumping Stations

Electric heating equipment and an installation in the South Bay Consolidated Water Co., Oakdale Pumping Station, Bayport, Long Island, N. Y. Above left: a control thermostat. Above center: a forced-connection-type unit air heater.

Above right: a wall-mounted industrial air heater. At left: a unique electric hot-water boiler installed in the basement and the hot-water radiator on the ground floor with an expansion tank

Electric Heat for Pumping Stations

By W. E. Graham
Industrial Dept., New York Office, General Electric Company

MANY small cities, towns, and villages derive their water supply from small unit pumping stations. Some of these isolated pumping stations are entirely automatic in operation, being visited only occasionally by an operator—and then mainly for the purpose of taking readings or changing charts.

For such locations, particularly in climates where temperatures are apt to fall below freezing, it is of extreme importance, in the interest of continuity of service, that a dependable source of automatic heat be provided. Also, for stations where an operator is in attendance, the comfort and health of the operator must be considered as well.

For heating a building such as an isolated pumping station, there is no way that is as clean, convenient, flexible, accurate, or safe as by electricity.

To insure heating within required limits a thermostat is used to control the coil of a magnetic contactor whose contacts handle the actual heater load. Heaters may be of two kinds: the forced convection heater, having a built-in motor-driven noiseless pressure-type fan to circulate the air heated by the radiant coils; and a natural convection type which consists of a number of strip heaters mounted in a perforated pressed steel case. These two classes of heaters will take care of almost any heating requirement that arises in an isolated pumping station where electric power is used.

Steam Heat via Electricity

Occasionally a condition calling for a greater than normal measure of ingenuity on the part of the engineer presents itself. Such a problem was met and solved in the case of the Bayport Station of the South Bay Consolidated Water Company at Bayport, Long Island. This station contains two rooms on the ground floor and a basement. One of the two ground-floor rooms serves as an office and contains the dead-front electric-hydraulic control board. The other room is the chemical feeder room, sealed off from the first by a brick partition.

Inasmuch as the chemicals stored in this second room are of a nature to attack almost any metal except cast-iron, it was decided that the best method of heating the room would be by using cast-iron radiators. The station being entirely automatic in operation, heat for the radiators could, of course, be generated either by a thermostat-controlled gas or oil furnace. Gas was not available, however, and the building did not have a chimney. It was decided, therefore, to build an immersion heater "electric furnace" in the basement to supply hot water to the radiators in both the first-floor rooms.

An ingenious 3-phase immersion heater "furnace" was designed with the hot water riser leading from the top of the three heater-enclosing pipes to the radiators on the main floor. The returns lead back to the bottom of the furnace providing a neat, compact circulating system. Operation of the magnetic contactor handling the heater load, seen in the illustration below the disconnect switch beside the heater columns, is controlled by a thermostat located in the operating room above.

The radiator in the operating room on the ground floor is equipped with an expansion tank. A similar radiator assembly is used in the chemical room. The radiator capacity is so arranged that the expansion tank can take care of the water expansion under any and all operating conditions.

This quiet, clean, efficient, automatic arrangement, has proven so satisfactory that the South Bay Consolidated Water Co. and its parent company, the New York Water Service Corp., have incorporated the idea in a number of their stations.

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Who Knows the Last Stanza of the "Star Spangled Banner"?

IN a recent letter to The New York Times, Frank Damrosch, Jr., writes:

With the coming of war the national anthem is being sung constantly on all sorts of occasions.. Invariably the first verse alone is sung, and I am writing to urge that it become the general practice to use the last verse also. The first verse by itself is almost meaningless and ends on a very dubious note. I do not mean this in the musical sense, although that may often be true too. . . .

I recommend that we all memorize the last stanza forwith, and that those in charge of public gatherings see that it is used.

O thus be it ever, when free men shall stand
Between their loved homes and the war's desolation!
Blest with vict'ry and peace, may the heav'n rescued land
Praise the Power that hath made and preserved us a nation!
Then conquer we must, when our cause it is just,
And this be our motto, "In God is our trust!"
And the Star-Spangled Banner in triumph shall wave
O'er the land of the free and the home of the brave.

Clear Utility Records Give Quick Service

By JOHN J. KIRKPATRICK
Manager, Gas and Electric Department,
City of Holyoke, Mass.

IN THE interest of closer customer relations and a more even flow of work, most of our old methods of customer service and accounting have been discarded and replaced by more efficient methods.

The major changes are: redistricting of meter-reading routes and a corresponding rearrangement of customers' ledgers, installation of customer-service record, customer-history record, meter-history record, meter-test record, and unit desks.

The installations which contribute most directly to improved customer relations are the customer-service record and customer-history record.

The customer-service record consists of two cards for each meter location. All these cards show complete address; description of premises; route and folio number; size, kind, and location of meters; and are filed alphabetically and numerically by street and house number.

The service order card on which the customers' orders are written is the one which is taken into the field by the service men who turn service on or off. This card serves the same purpose as the old "meter order" except that it does not have to be written each time. It also replaces the old "remove meter," "meter change," "succession," and "complaint" cards.

The master card remains in the file permanently and furnishes a consecutive record of the persons who have lived at any address. This card provides information regarding a service order which is temporarily out of the files. It also indicates all idle meters, showing the month in which each meter became idle, in order that removals may be ordered at the end of any specified period. By means of a visible signal, the card shows the date of the last test or the date when the meter is to be tested.

The customer-history record consists of a card for every customer and is a complete record of any and all activities connected with the customer's account. It provides a consecutive record of locations where a customer has used service, together with all credit data, collection experience, etc. Reference to this card puts the employee in a position to discuss any phase of the account with positive knowledge of conditions.

The first point of contact with the customer—the first opportunity to build good will—is at the time the application is taken. Applying for service, or for changes in service or location, should be made as simple, rapid, and accurate as possible. This is the thought behind our installation of customer-service and customer-history installations.

All applications for service, requests for discontinuance of service, and transfer orders (change of address) are handled by the contact clerk.

If the applicant has not previously had service, an application must be signed and all necessary information for the installation must be obtained—the customer's full name, name of husband or wife, business or occupation, name of employer, and list of property owned. This card then becomes the customer-history card which remains in the file as long as the customer is on our lines.

In handling applications for transfer or change of address, the contact clerk, by means of the intercommunication system, calls the customer-service clerk and gives the customer's name, as well as "moving to" and "moving from" addresses. The service clerk takes from the file the service-order cards for both addresses and notes the changes on both the service-order cards and master cards. At this point it may be found that the service-order card for the "moving to" address shows the location to be occupied. This gives us an opportunity to check with the customer as to whether or not the premises are vacant, or if the address given is the correct one before the customer leaves the desk.

While the customer-service clerk is getting the service order cards, the customer-history clerk is consulting the history card. If past experience has been satisfactory a green signal is flashed to the contact desk, and the customer is told that the work will be done when wanted. Service order cards are prepared and sent to the meter department.

If the history card shows unsatisfactory credit conditions, a red signal is flashed to the contact desk, and the customer is told that credit must be arranged with the credit department. If satisfactory arrangements are concluded, the credit clerk so informs the service clerk and service cards are prepared and sent to the meter department. At the same time arrangements for payment are noted on the customer's collection card. It is no longer necessary to obtain signatures of customers with good credit records, whether the application is received in person or by telephone.

Our meter-history record contains a card for every meter owned by the department whether active or inactive. It gives a consecutive record of every location at which the meter has been used and shows complete data on the meters, such as manufacturers number, shop number, size, make, date purchased, cost, and date retired. Cards are filed by shop number.

The meter-test record also has a card for each meter and is arranged to take care of four tests. When a meter is to be tested, this card is taken into the field to be returned with a record of the re-

sult of the test. Cards for meters in service are filed by street and number, those for meters in stock are filed by shop number.

Equipment and procedure in customer accounting and meter reading have been changed to insure a more even flow of work. Under our old system our customers' ledger was divided into 75 sections or "books." Originally, a book in the customers' ledger corresponded to a meter readers' book but sections of the city had grown so that in some cases a book in the ledger consisted of five or six meter books. All accounts were balanced at the end of each month.

All meter-reading routes have been redistricted and are now arranged in 21 districts with eight routes in each district and districts with two routes each. Customers' ledgers are arranged to correspond with the meter-reading routes, and are divided into three ledgers "A," "B," and "C" housed in three unit desks each of which is an "A" label safe.

One district is read each day, one district is billed each day, and one district is balanced each day, thus distributing the work evenly throughout the month. Ledgers are balanced a few days in advance of the billing date at a time when the fewest number of accounts show a balance.

Note modern lighting in both views: Below, all-steel furniture including 4-hour safes for customers' ledgers in bookkeeping office

Above, valuable customer records are filed visibly for quick reference and protected in 4-hour safe-cabinets

While the system has been fully in operation for only two months, we are confident that we now have the most modern and efficient system available, and one which will promote improved customer relations and office routine in this department of Holyoke's government.

Trends in Non-Defense Expenditures—National, State, and Local—Compared with National Income

THE trend in state and local government expenditures in relation to growth of federal expenditures and national income is shown in the accompanying table, reproduced from "Curtailment of Non-Defense Expenditures" by Henry P. Seidemann, published December 29, 1941, by The Brookings Institution.

Discussing these figures, Mr. Seidemann says:

"State and local government expenditures, it will be seen, have shown a steady increase and now average about 1.5 billion dollars above the average in the three years 1935-37. The combined expenditures for all government (non-defense) purposes are roughly 1.2 billions in excess of the average for 1935-37.

"In the light of this analysis it seems clear that with a national income in excess of 90 billions, the level of non-defense expenditures could be reduced very much below the level of 1935-37 without causing a renewal of depression, or producing widespread economic and social distress. The extent of the reductions that can be made would seem to be merely a matter of national will."

—The above-mentioned report—a 54-page pamphlet—is obtainable from the Brookings Institution, Washington, D. C., at 25 cents per copy.

FEDERAL, STATE, AND LOCAL EXPENDITURES (NON-DEFENSE), COMPARED WITH NATIONAL INCOME, FISCAL YEARS 1935–42

(In millions of dollars)

Fiscal Year	State and Local Expenditures [a]	Federal Non-Defense Expenditures	Total Non-Defense Expenditures	National Income [b]
1935	8,078	5,913	13,991	53,077
1936	8,398	7,639	16,037	60,476
1937	8,827	6,711	15,538	68,290
1938	9,325	5,895	15,220	67,927
1939	9,620	6,850	16,470	67,546
1940	9,798	7,155	16,953	73,355
1941	9,900 [c]	6,593	16,493	80,903
1942	9,900 [c]	6,464	16,364	95,000 [c]

[a] Derived from compilations by the U. S. Bureau of the Census and the National Industrial Conference Board. Duplications resulting from grants are excluded. State expenditures for 1940 and later years and local expenditures for 1939 and later years estimated. State unemployment compensation payments are excluded. Local expenditures include payments by public service enterprises. A small amount of state expenditures that might be classed as defense has not been deducted.

[b] Original data from U. S. Dept. of Commerce. In order to obtain approximate correspondence with fiscal years, calendar year data for national income produced were averaged. The 1941 total is for income payments for the 12 months ended June 1941.

[c] Preliminary estimate.

Our Children in Wartime

Federal Children's Bureau Asks Cooperation of City and County Officials

By Miss Katharine F. Lenroot
Chief, Children's Bureau, U. S. Department of Labor

PROTECTION of children on the home front is of primary importance in wartime because children bear within themselves the future strength of the nation.

City and county officials are immediately responsible for seeing to it that children are safeguarded because they are in charge of the community services that are essential for children. They must be the spokesmen to bring to the attention of the public the action that is needed. For some of these services state aid and federal aid are available, but even so it is the local public agency that renders service.

Children in wartime need what children always need, the chance to grow, to have good health, to go to school, to play, and to learn how to work and participate in family and community activities. City officials will perform a signal public service if they will be outspoken on the need to maintain municipal services necessary for children and to augment such services whenever increased numbers of children are to be provided for.

Public Health Services

Public health services for mothers and children were never more important. The supervision and instruction that is given to mothers by doctors and public health nurses in our prenatal clinics, child health conferences, school health services, and nurses' home visits keep mothers and children well and lessen the danger of illness and epidemics. It is the most economical and effective use we can make of the time of doctors and nurses, because so many mothers and children are benefited or saved from illnesses that would require individual medical, nursing, and hospital care. It will be necessary for city officials in their health department budgets to guard the appropriations for maternal and child health services.

In wartime when materials and man power must be devoted so largely to destructive needs, it is essential that thought be given also to opportunities for patriotic services of a constructive character.

The accompanying article suggests ways in which municipal officials and local civic groups can cooperate to this end in behalf of the nation's children.

Hospital beds for women at delivery, for sick children, and especially for children with communicable diseases, are indispensable in safeguarding the lives of mothers and children. We need more maternity beds and children's wards in our defense communities. We also need to safeguard the nursing service in all our hospitals to see that funds are available to employ qualified nurses, to train student nurses, and to supply nurses' aids and assistants to conserve the time of the nurses whom we can keep in our communities.

Good food is essential for children. We are making a national effort to inform families how to feed themselves well. Safe milk available at a price families can pay, school lunches, and adequate family relief allowances—all call for leadership and budget action on the part of local public officials.

This winter the Children's Bureau and the state health officers have embarked on a campaign to get all children immunized against diphtheria and smallpox, a health conservation project that will be of far-reaching benefit.

Maintaining the health of families will safeguard our industrial workers against epidemics and will contribute to the morale of our industrial and military forces. Men work and fight better when they know their wives and children are well cared for at home.

Child Welfare Workers Needed

Families everywhere are disturbed as a result of the war conditions already affecting them. In our defense communities hundreds of thousands of families are seeking to establish themselves and to become acquainted with the municipal services needed for their children—schools, playgrounds, health services. We have gradually been building up a corps of child welfare workers in private and public employ who are available to assist families in dealing with their children's problems and in drawing on the resources available in our communities.

We have too few communities with child welfare workers. Reports of increasing juvenile delinquency make evident to parents the need for the advice of someone in the community to help them deal with situations affecting their children. We cannot expect at present that private social agencies will be able to expand sufficiently to meet this need. It is necessary to find the ways and means to employ more child welfare workers in our public welfare agencies to make sure that our laws and services designed to benefit children actually reach the children who need community protection. In many of our defense communities we also need better

police protection, including well-trained policewomen, to deal with situations that involve social hazards for boys and girls.

With the marked family migration today and the curtailment of income for some families, due to higher living costs, taxes, and priority unemployment, we will have many families needing public assistance at least temporarily. Local officials must see that these circumstances are adequately considered in budget-making, since knowledge of increasing defense employment may obscure public realization of the need for assistance to such families.

Caring for Children of Working Mothers

Increasing industrial demand is drawing more and more women into our factories. Many of these women have children, and some of them have very young children. Such mothers work because their earnings are needed for family support. Also, we need their skills in our defense production. Communities share with families the responsibility for making sure that the children of working mothers do not suffer from neglect. We need to make provision for day-care centers, nursery schools, after-school programs, and related services, including advisory or counselling service for mothers at work who need help in planning for the care of their children. In many defense communities the need for such projects extends far beyond the ability of private agencies to supply them. Our local governments must share in finding the means to take care of these children of defense workers.

Keeping boys and girls in school until they are at least 16 is essential today, not only because their individual chance in life must be protected, but also because, more than ever before, the country is going to need well-equipped citizens ready to meet adult responsibilities. Local school officials need to be aggressive in safeguarding the right of boys and girls to go to school in order to offset the economic opportunities that tempt them to leave school.

Recreation for boys and girls is even more important than heretofore because they are going to need so greatly the exercise, relaxation and practice in democratic association that they find on the playgrounds and in community centers. Municipal recreation budgets are a major resource in providing recreation for children and families. Recreational facilities and leadership should be maintained and increased wherever possible. This is particularly necessary in defense areas.

Great Britain's Experience

The remarkably good health record for mothers and children that has been maintained in Great Britain during the war years, including the evacuation of large numbers of children from London, and their care in reception areas, has been due in large part to the fact that child health clinics, school medical service, district nursing service, health visitors (child welfare workers), and maternity care had been made available under the jurisdiction of practically every local authority. Without this network of service the huge task of caring for children in cities under bombing and in reception areas could not have been achieved so successfully.

Children's Bureau's Relationships

In the United States the Children's Bureau maintains close relationship with the Office of Defense Health and Welfare Services, which is concerned especially with health and welfare needs in defense areas, and with the Office of Civilian Defense, which has called on the Children's Bureau and other federal agencies concerned with children to advise on the ways and means whereby children may be protected in the war emergencies that may arise. The federal and state governments must aid in providing services for children during these days of stress. A national effort is being made to encourage and assist in the training of volunteers to aid in the care of children and in carrying on community services.

Whatever plans are made for children by federal and state agencies, the execution of the plans depends in large part upon city and county officials. With them rests the responsibility for giving reality to the phrase used by the White House Conference on Children in a Democracy in 1940—"Our concern, every child."

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Buildings Needed for Wartime Civilian Health and Welfare

The Architectural Record carries, in its January, 1942, issue, a synopsis of the results of an inquiry sent in December to the Mayors of 340 municipalities included in 275 official defense areas. The questions asked had to do with wartime requirements in these municipalities for hospitals, schools, municipal facilities, transportation terminals, recreational facilities, and commercial buildings. Some of the findings follow:

The replies received, in which 123 of these cities were represented, left little doubt that the defense effort has overtaxed the municipal plant and existing commercial buildings in many categories. Taking together all reports that definitely listed construction requirements, the survey showed, for example, that 52 per cent of defense communities need new hospitals; that 60 per cent ought to have new schools; 55 per cent, parking facilities: 44 per cent, apartment buildings.

New streets were deemed necessary in 58 per cent of the communities reporting; and new sewerage systems and plants in 57 per cent of the communities. The other new construction requirements (in percentages of cities reporting) were as follows: street widenings, 45 per cent; grade crossings, 43 per cent; water lines, 35 per cent; fire stations, 41 per cent; police stations, 21 per cent; administrative buildings, 23.

Bus stations and terminals were listed on 13 per cent of the questionnaires and warehouses on 11 per cent.

Airports were checked as required in 24 per cent of communities, indicating that twice as many defense areas need —or think they need—airports as need bus stations.

It is clear in the survey returns that the modern community understands its obligations to citizens as extending beyond essential utilities and protective services, extending specifically to the provision of swimming pools, playgrounds and community buildings.

Heavy Industrial Load Outranks Domestic Sewage

Watertown, S. Dak., Sewage Works Receives Slaughtering Plant Waste Which Provides 40 Per Cent of the Flow and 80 Per Cent of the Load

EXCEPT for one slaughtering plant, the sewage of Watertown, S. Dak., is entirely domestic. The water consumption is 100 gallons per capita, but subtracting the metered use by the slaughter house, the domestic demand is reduced to 60 gallons per capita daily. The strength of the trade waste greatly overbalances the domestic sewage and provides fully 80 per cent of the B.O.D. Despite this, the plant delivers a stable effluent to the small stream of which the effluent forms the major volume in summer.

Lift Stations

The sewage from the east end of Watertown flows direct to the main lift station, while that from the west side is raised at a station equipped with two 300-gallon Fairbanks-Morse pumps and motors. The main sewage pumping station on U. S. 212 raises the sewage 25 feet to the plant and contains three pumps, one of 500, and two of 750 gallons per minute capacity. These are complete Fairbanks-Morse units and are operated by float switches. One-inch bar screens are installed at both pump stations ahead of the pumps, and are cleaned twice daily, the screenings being disposed of by burial at the city dump. The sewage pumped by the main station is measured by an 18 x 6-inch Simplex Venturi meter. The flow of sewage varies from 750,000 to 1,000,000 gallons daily.

Primary Clarification and Filters

The main pump station delivers the sewage to a Dorr primary clarifier, 50 x 50 feet and 8 feet deep.

From the primary clarifier the sewage flows to two dosing tanks equipped with Adams Hydraulics, Ltd., of York and London. One dosing tank is used for each pair of 120-foot diameter Adams rotary sprinkling filters with beds of 1½- to 2½-inch stone 8 feet deep. A great deal of trouble is experienced with Psychoda, the sewage fly, so that it is necessary to flood each of the filters every ten to fourteen days for 24 hours to reduce the pest.

The secondary settling tank, which is 50 feet square and 4 feet deep, is equipped with a Dorr clarifier. From this the sewage flows direct to the Sioux River through a cast-iron outfall sewer ½ mile long.

Close-up of a distributor arm on one of the trickling filters at the Watertown, S. Dak., sewage-treatment plant

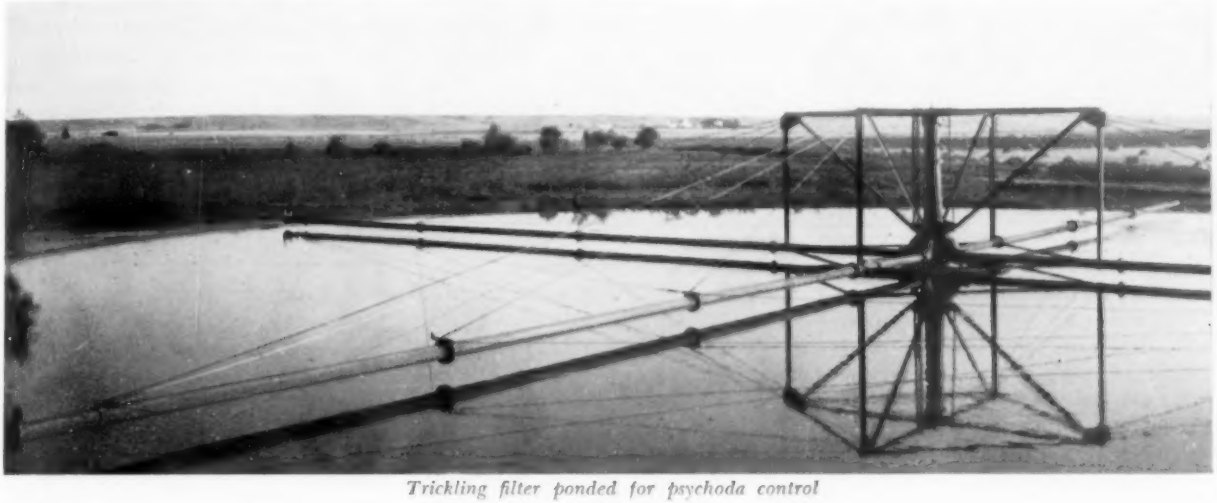
Sludge Disposal

The Control House, located between the primary clarifier and the digesters, is of brick, 25 feet square. On the ground floor is a B-Line boiler using digester gas to heat the water which is pumped through the digester coils by a Vogt circulating pump. The insulated lines are equipped with thermometers to show the temperatures of the outgoing and return water. These show about 130 degrees on the outgoing line and from 115 to 120 on the return. Adjacent to the boiler is a PFT flame trap to protect the gas line, and a Connersville gas meter to measure the production of gas in the digesters. Adjacent to this is the domestic hot water system, and on the same floor a laboratory, a lavatory, and a shower bath. In a deep basement beneath the Control House, about 18 feet below ground level, is a well and pump which delivers the water to a pressure tank for domestic service at the plant and for the lawn-sprinkling system. In the basement are the two Barnes sludge pumps which take the sludge from the primary clarifier and deliver it to the digesters. The sludge from the secondary tank is pumped to the primary clarifier to further thicken it. The sludge from the digesters flows by gravity to open beds.

Both digesters have fixed covers and are equipped with Dorr stirring mechanisms and gas collectors. They are each 60 feet in diameter and 23 feet deep at the wall. The gas at 3 inches water pressure is delivered to the burners, and the balance is wasted into the air and not through a waste gas burner.

Although the plant is equipped with an adequate number of sludge beds, the sludge is lagooned onto a sandy area to fill it, rather than endeavoring to dry the sludge and use it for soil conditioning.

The Watertown, S. Dak., sewage treatment plant is operated under the direction of Ralph Reed, City Engineer.



Trickling filter ponded for psychoda control

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More Walking Facilities for Post-War England

FOUNDED in 1865, and still enjoying the vigor of youth, "The Commons, Open Spaces, and Footpaths Preservation Society" of England has been giving special consideration in recent months to post-war planning. Its *Journal* for November, 1941 carries the text of a 20-page memorandum on this subject, drawn up by the Society's executive committee and signed by Lord Harmsworth as chairman and Sir Lawrence Chubb as secretary. This memorandum, comprising various proposals designed to enlarge and secure the rights and privileges of the public in the countryside, has been submitted to the Ministry of Works and Buildings, presided over by Lord Reith, and to other departments of state.

The memorandum offers recommendations as to Commons; Village Greens; Open Spaces; Access to Mountains; Public Rights of Way; Coastal Preservation and Public Access to the Coast; and National Parks.

On the subject of Footpaths, the memorandum recommends that:

(a) All planning schemes should make adequate provision for walkers, both in the environs of towns and in the open country, including new cross-country paths, river and streamside walks, and access to special viewpoints.

(b) No road improvement scheme should be sanctioned which does not provide for a footpath alongside the road, and the provision of footpaths along or adjoining existing roads used by motor traffic should be made compulsory.

Pointing out that the Ministry of Health has provided for the inclusion of special "coastal" and "seashore" zones in planning schemes, the Society urges planning of coastal land that:

(a) National measures, including financial aid, should be taken to ensure that the coast is effectively preserved.

(b) The need for suitable means of public access to the coast should be recognized, and provision made for this purpose.

In discussion of post-war planning, the Society's *Journal* says:

"It is, we think, generally agreed that if social reconstruction after this war is to be successful, and the futilities and disappointments of the last post-war period are to be avoided, consideration of the general lines and to a great extent the details of that reconstruction must take place now, and cannot safely be postponed till the war is over. The fact that the war must be won before replanning can be carried out does not in the least preclude the country from deciding what it will do, in matters of internal reform, when it can; failure to make this decision in good time will result in our being unready for action when the occasion for action arises, and in repetition of our previous mistakes."

Snow Melter Successful on Airport Runways

Allegheny County Airport, Pittsburgh, Pa., Has Machine with Features Helpful to Winter Street Cleaning

IT HAS long been the ambition of street-cleaning departments to find a way to melt snow as it falls, so that it would run down the gutters as water and not have to be rehandled. Chemicals have partially solved this problem and have been most effective in breaking up accumulations of ice where snow was not removed promptly enough after it fell. The answer to the snow-melting problem seems to have arrived at the Allegheny County Airport, Pittsburgh, Pa., where John B. Sweeney, Assistant Chief Engineer, Department of Works, Allegheny County, Pittsburgh, Pa., designed, built, and tested a snow melter at the airport last winter. The first question which comes to the mind of every practical street-cleaning man is, "What does it cost to run the machine?" Mr. Sweeney's answer, based on the tests at the Allegheny County Airport, is that it costs approximately $5.00 per hour to operate the machine. This cost includes the two men on the machine and the fuel to operate it. From these tests, it is figured that the machine will keep clear 20 miles of 20-foot road at a cost of $2.00 per mile.

The accompanying illustration shows the machine during one of it tests on the wind-swept airport just west of Pittsburgh last winter. The machine consists of a combustion chamber in front of a truck or other motor vehicle and a blade in the front which acts as an excess snow remover. A squeegee blade is placed between the wheels of the truck to push aside any water or moisture that might be left after the snow has been melted. The melter consumes about 350 gallons of fuel oil, at a cost of about 6 cents per gallon, during an 8-hour period of operation.

The method of operation is to begin when the snow starts falling, and from the tests at the Allegheny County Airport it has been shown that the machine can keep ahead of any storm on an emergency airport runway which is 2,500 feet long by 150 feet wide. Using a chamber 15 feet wide, it would be possible to traverse the whole field in 30 minutes, traveling at a speed of 10 miles per hour.

The machine is equipped with a pump which will lift any water that might be left and deposit it in a tank on the truck, which can be emptied at the end of each run. It is Mr. Sweeney's opinion that there would never be enough water left to make use of this pump, inasmuch as the machine has shown itself capable of keeping the runway dry.

A new and improved machine has recently been completed and is to be used in tests this winter. The features of the machines have been patented.

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We can call upon the great men, the great words, of our own past—and that we should do—for in looking back at our past we can see at what a price, by what endurance and fortitude, the freedom we have inherited was bought. But that is only part of the task. We need new words also — and great ones—to match the present, to build for the future that must be.

STEPHEN VINCENT BENET
in *The Yale Review*

The new snow melter during one of its tests at the Allegheny County Airport, Pittsburgh, Pa.

Glamour Without Chromium

Left, a 750-gallon Mack Pumping Engine, conforming to OPM requirements while retaining traditional fire-apparatus personality. Right, a gleaming 750-gallon 5-man cab Mack pumping engine delivered in the summer of 1941 to Boardman Township, Ohio. N. B.: After ordering apparatus, be sure to send a PD-1 form to Washington, as delivery cannot be made without a preference rating.

FOR the duration and by government edict, chromium-plated brightwork on fire apparatus, no less than on passenger cars and trucks, is proscribed.

Every ounce of chromium, of nickel, and of copper—the three indispensables to modern bright plating—and every bit of stainless steel—the only satisfactory alternative—must be reserved for essentials. Even though a manufacturer has an inventory of plated fittings, these must be painted over. From January 1, 1942 until peace returns, the glamour and luxury of brightwork must be put behind.

Fortunately this does not mean that fire apparatus must be dull and drab, or resemble army trucks. The government recognizes that flashy, attention-arresting appearance is a practical necessity in fire-fighting vehicles in order to secure the right-of-way in traffic.

All manufacturers of fire apparatus, while realizing the necessity of cooperating with the government in every possible way, are also sympathetically aware of how dear to the hearts of all fire-fighters is the gleam of polished metal. Accordingly, the job of devising a treatment of fire-apparatus trim, in conformance with the order of OPM, has been given careful thought to preserve the attention-compelling glamour which has always characterized fire apparatus.

The ruling of OPM is a challenge to the ingenuity of American manufacturers. Already types of paints, enamels, and synthetics are being selected which will give the greatest durability and color fastness. The picture above is of the 750-gallon pumping engine recently delivered to Sunbury, Pa. The trim is painted a warm cream, contrasting attractively with the bright fire-apparatus red with gold striping. Other combinations, such as blood red to contrast with the white body color, popular in some communities, golden yellow, bright green, or silver gray, are also obtainable at customers' option.

The photograph at the top is of the 750-gallon pumper purchased last spring by the volunteers of Boardman Township, suburb of Youngstown, Ohio. Writes Chief M. W. Gifford:

"It may interest you to know that we competed in eleven parades in 1941 with our new Mack 750-gallon pumper and walked off with first prize each time for the best-appearing, best-equipped pumper in the parade. We have competed against as many as 100 units in one parade and please note that we were not always among friends and neighbors in our own state. On three occasions we ventured outside of our own state and brought home the bacon."

Handsome as were the older fire engines, it is safe to predict that the pieces which are now being built will win prizes in the simpler, sterner, and more important field of utility plus trim design. Glamour will not only be retained but steadily increased. It will be the deeper glamour of shape and constitution rather than of the cosmetics of shiny metals.

Air-Raid Shelters

NATIONAL defense officials have shown little inclination to encourage the construction of bomb shelters. According to reports submitted to OCD by competent military authorities who have studied the situation, the possibility of any sustained bombing attacks on American cities is so remote as to make inadvisable any widespread program for the construction of air-raid shelters. According to informed observers here, this is not just a guess but an actual estimate worked out in consideration of distances from enemy bases, the area of the country, the distribution of population, the effective range of heavy bombers, and certain other pertinent factors.

It is realized, of course, that there is always the danger of "nuisance" raids to be reckoned with, especially in the coastal areas, that is, within a 300-mile zone bordering on the Atlantic and Pacific Coasts and the Gulf of Mexico. But it is felt by most military experts that the damage likely to be caused by such attacks would not be sufficient to justify the enormous expenditures that would be required to provide protection for the 47,000,000 people living within these areas.

It has been pointed out that about $1,150,000,000 would be required to provide shelters for this part of the population and that in addition to the enormous cost involved this would divert a considerable amount of much needed materials from the strictly military phases of the war effort.

(From the American Municipal Association's *Washington News Letter* for January 5, 1942.)

Keeping Our Heads on the Enemy Alien Problem

Department of Justice Urges Avoidance of Unreasoned and Ineffectual Hatred

By James Rowe, Jr.
The Assistant to the Attorney General
of the United States

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OF THE last World War it has often been said—and not without some justification—that we won the war but lost the peace. That we won a decisive military victory there is no question. But the peace that followed was marred, as we know all too well, not only by serious economic disruptions but also by social conflicts and unrest as well.

One of the most distressful phases of this latter manifestation was the treatment we accorded to aliens. Under the emotional stresses of war we acquired a mass hatred of Germans which at some periods and in some places bordered on hysteria. Persons of German descent, or even with German-sounding names, were hounded out of their homes, driven from jobs and professions, and generally subjected to abuse and persecution. German music disappeared from concert programs; the language was banned from school curricula; children came down with "liberty measles" instead of the conventional, and certainly no more virulent, German variety. To a deplorable extent, this antagonism spread to include all "foreigners."

Attitude after World War I

Not until several years after the Armistice was a reasonable balance restored in our attitude toward aliens. But meanwhile our whole concept of the democratic principle had been warped. We had yielded to those same sadistic impulses for which today we condemn the Black Shirts and the Storm Troopers. We had tossed overboard our traditional doctrines of justice and individual liberty. We had canceled out a whole section of the Bill of Rights. That unreasoned and ineffectual hatred had done something to the American spirit which took years to repair.

Today in many respects we are back where we were 25 years ago: war, drafts, defense bonds, home defense, alien round-ups, and all the rest. But there is substantial reason to believe that we are going to avoid many of the tragic errors which beset us last time. In particular, I do not believe that our record will be marred by the merciless "witch hunts" and "spy scares" which constituted such a sorry chapter in our history of the last war and its immediate aftermath. If our handling of the alien problem today can be used as a barometer—and it is a good one—there is reason to hope for the survival of the democratic principle in spite of the stresses of a war psychology. Let us see how we are approaching that problem,

Restrictive Regulations

Immediately after the declaration of war Presidential proclamations were issued imposing certain restrictive measures on enemy aliens—German, Italian, and Japanese nationals living in this country. Complete authority for the execution of laws and regulations concerning enemy aliens was placed in the hands of the Department of Justice.

The first decisive action was taken by the FBI. Within 24 hours its agents had apprehended over 1,000 enemy aliens who, by investigations extending over periods of as much as two or three years, were deemed dangerous to our security. They were safely locked up and prevented from carrying out whatever nefarious plans they may have had in mind. Today this number exceeds 3,000, all of whom are being securely but humanely held in detention quarters of the Immigration and Naturalization Service.

Next, Attorney General Francis Biddle issued a series of special regulations covering the conduct of all enemy aliens in the country. In substance these contained the following specifications: firearms, explosives, cameras, short wave radio sending and receiving sets, and a number of other articles were ordered surrendered to the local police; enemy aliens were forbidden to ride in airplanes or to travel outside their home communities without special permission; they were forbidden access to areas of vital defense importance such as Army and Navy stations, flying fields, power stations, defense plants, etc. Just recently a proclamation has been issued under which they will be required to obtain identification cards which they must carry with them at all times.

So much for the *repressive* side of our current handling of the enemy alien problem. I do not think any one will complain that a nation at war can safely exercise less control than this over subjects of hostile countries living within its borders. Now let us see what is being done for their *protection*.

Hearing Boards for Alien Protection

Of first importance is the fact that every enemy alien who has been apprehended as dangerous is to have a fair and impartial hearing of his case. There has been set up in every judicial district in the country one or more Alien Enemy Hearing Boards composed of three or more civilian members drawn from the community. These boards will examine each case individually, receive such affidavits and hear such witnesses as the alien may care to present, and then recommend one of three courses to the Attorney General: that the alien be released unconditionally, released under certain conditions of parole, or interned for the duration of the war. Final disposition of each case rests with the Attorney General.

This policy has, I think, a most profound significance. It is a gratuitous extension of democratic privileges to a class of people—enemy aliens—who have no legal rights whatever. In theory, every enemy alien in the country is subject to internment for the duration of the war. There is no legal provision for appeal. In practice, however, only a small percentage are being detained, and even they are granted an opportunity to be heard. Undoubtedly, a number of aliens now being held will be released or paroled. This is a conspicuous example of the practical working of democratic principles. To what extent do you think it can be duplicated elsewhere in the world?

Our Responsibility

There are altogether 1,400,000 enemy aliens now living in this country. The Department of Justice takes the well-founded attitude that the vast majority of these are loyal to the United States. Most of them came here seeking the very freedoms we are now fighting to defend. They have put down their roots in the free American soil; established homes, businesses, reared families, and become citizens in all but the technical sense. Many, indeed, have American-born sons serving today in our armed forces. There is a heavy responsibility upon us to shield these friendly people—enemy aliens though they may be—from abuse and persection. We cannot abandon the democratic principles we are fighting to defend by denying them to minorities in our own midst.

Cooperation of State and Local Officials

A number of means have been used to effectuate this policy. The Attorney General has sought, and gained, the cooperation of state and local officials all over the country in a program to centralize all authority for enforcement of espionage and enemy alien laws in the hands of the Department of Justice. This will minimize the number of unnecessary arrests and investigations of enemy aliens by sincere but possibly misguided local police. At the same time it makes for greater efficiency in dealing with those who are actually dangerous.

Enemy aliens have been advised that their status is not an insurmountable barrier to gaining American citizenship. If they had first or second papers pending prior to December 8, final naturalization may be delayed an extra 90 days to permit the Department of Justice to make a special investigation of their case. Those who have not yet initiated naturalization proceedings may petition the President for permission to do so.

Every effort is being made to prevent job discrimination against enemy aliens. There are no statutes or regulations restricting their employment in any manner whatsoever with the sole exception of work on certain defense contracts of a secret and confidential nature. In such instances, permission of the Army or Navy is required before the enemy alien may be employed. Such permission already has been granted in a large number of cases.

This particular aspect of the problem has caused considerable worry in Washington. Reports continue to come in of wholesale discharges of persons of German, Italian, and Japanese nationality—sometimes for no more reason than that they have "foreign-sounding" names. Others are denied employment on similar grounds. President Roosevelt himself took cognizance of this situation recently and issued a statement quoted on this page.

It is axiomatic that a good start is half the race. I believe that in so far as our treatment of the alien minority is indicative of our determination to keep practical democracy alive throughout this war emergency, we are on the way to a successful conclusion.

President Roosevelt Urges Continued Employment of Enemy Aliens

"It is one thing to safeguard American industry, and particularly defense industry, against sabotage; but it is very much another to throw out of work honest and loyal people who, except for the accident of birth, are sincerely patriotic.

"Such a policy is as stupid as it is unjust, and on both counts it plays into the hands of the enemies of American democracy. By discharging loyal, efficient workers simply because they were born abroad . . . employers are engendering the very distrust and disunity on which our enemies are counting to defeat us.

"I urge all private employers to adopt a sane policy regarding aliens and foreign-born citizens, and to remember that the sons of the 'foreigners' they discharged may be among those who fought and are fighting so valiantly at Pearl Harbor or in the Philippines . . ."

New Sewerage Laws Simplify City Financing in State of Washington

1941 Legislature Passes Three Sewer Acts Permitting Financing through Utility Bonds and Use of Service Charges To Amortize the Bonds

THE financing of sewerage systems and sewage-treatment plants in the state of Washington has been greatly handicapped because of the absence of enabling laws which would permit cities and sewerage districts to finance through the issuance of utility bonds and the subsequent retirement of the bonds through revenues derived from the systems. Under the old laws it was necessary to issue general obligation bonds with assessments against the property. The interest on these bonds was high, and buyers were not favorably inclined toward their purchase. Even the old Municipal Utilities Act, Laws of 1909, which was interpreted as permitting the operation of water systems and sewerage systems as combined utilities, was of doubtful legality in this respect in the minds of many bond buyers.

The 1941 Legislature of the State of Washington has eliminated all these difficulties of sewer financing with the passage of three new sewer acts which permit financing through utility bonds, with the cost paid off in the form of monthly service charges. With the handicaps of sewer financing eliminated, no difficulty should stand in the way of any city or unincorporated area in the state of Washington in need of sewerage and sewage-treatment facilities. The interest rates will be much more satisfactory from the standpoint of the bond seller, and the security afforded the bonds will make them much more salable.

The new sewer laws are: Chapter 193, Laws of 1941, "Comprehensive Sewer Act—All Class Cities"; Chapter 210, "Sewer District Law—Unincorporated Areas"; and Chapter 75, Laws of 1941, "Sewers—Connection Outside of City Limits."

Summary of Comprehensive Sewer Act

Incorporated cities and towns may now construct, acquire, and maintain sewer systems and sewage treatment within and without the incorporated limits, and may fix rates and charges for the use of these sewers. The financing may be either by revenue bonds, general obligation bonds or if no general indebtedness is to be incurred, such as when the entire cost is borne by utility revenue bonds, it is not necessary to submit the proposition to the voters. Neither is it necessary to submit the proposition to the voters if the construction is ordered by the State Board of Health, in which case the city council itself may authorize the necessary bond issue and start construction. The proposition must be submitted to the voters if any general indebtedness is to be incurred. A majority of 60 per cent of the votes cast is required. Also the tax limitation levy may be exceeded through a special election authorizing levies in excess of the tax limitation.

General obligation bonds may not run for more than 30 years, the interest must not exceed 6 per cent, and the total bond issue may not exceed 5 per cent of the assessed valuation unless authorized by a special election. Each year a levy must be made sufficient to pay the interest and principal on the bonds, and collectible as other taxes.

Utility bonds may be issued when service rates for use of the system are sufficient to pay the interest, principal of bonds, and cost of operation and maintenance. In the past, many utility bond issues in Washington have sold at an interest rate as low as 2 per cent. These revenue bonds may be issued without a vote of the electorate, and they are not an indebtedness against the city or town but are payable only out of the revenues of the system.

The authority granted cities under this act permits them to fix rates and charges for sewer connections, to regulate the use of the sewer, and to compel property owners to connect private drains and sewers with the city system through ordinance.

An important feature of this Act is the fact that the city may file liens against property for which there are unpaid rates and charges. These liens become superior to all other liens and incumbrances except general taxes and local special assessments. This particular feature makes revenue bonds much more salable because of the protection afforded bond buyers. Provision is made for foreclosure of liens. The city is also granted the power to terminate water service until sewer rates and charges are paid.

Cities may contract with any sewer district for the discharge of the district's sewage into the city sewer system upon reasonable terms and conditions. Cities may provide for the cost of construction and maintenance of sewerage systems and make the cost chargeable to the water system, or may authorize the operation of the water and sewerage systems as combined utilities either by ordinance or submission to a special or general election.

Sewer District Act for Unincorporated Areas

Under this Act, Chapter 210, a sewer district may be formed by filing with the county auditor a

petition, signed by 25 per cent of the qualified electors in the proposed district, designating the boundary. After a hearing by the county commissioners, at which time the final boundary of the district is established, a date is set for a special election. The expenses of the election are borne by the county and repaid to the county by the sewer district, if and when formed.

A general plan for the development of the sewer district, setting forth the estimated cost, must be approved by the electors before any indebtedness is contracted; and the plan must provide for the method of financing, setting forth service rates if revenue bonds are issued, and assessments if general obligation bonds are issued. Plans for the system must be approved by the county engineer or other engineer designated by the county commissioners, and by the State Director of Health, before the election is held. A majority of the votes cast is required for the formation of the district.

Ample provision is made in the Act for the annexation of property adjacent to sewer districts through a vote of the electors in the area desiring annexation. Cities and towns may not be annexed or included in the sewer districts.

The method of financing may be either entirely or part by revenue bonds paid for out of revenues derived from the operation of the district, or general obligation bonds paid for by assessments against the property included in the district and chargeable as other taxes.

Contracts may be entered into with any other corporate entity for the joint use of sewer facilities. As in the comprehensive sewer act for cities, this Act provides for delinquent sewer rental charges becoming a lien against the property.

Sewer Connections Beyond Municipal Limits

This Act, Chapter 75, provides that any city or town is authorized to permit connections with any of its sewers from property beyond the city limits, and that such connections will be made on terms, conditions, and payments agreeable to the city and property lying without the corporate limits. It is also provided that if the conditions and terms of the agreement are not kept, the city may disconnect the sewer.

ACKNOWLEDGMENT—The foregoing article has been prepared from material furnished by the Division of Pubilc Health Engineering, Washington State Department of Health.

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Snow Plow Piles Leaves, Saving Time and Money

Hand Labor and Old Snow Buck Pulled by Truck Are Supplanted by Rebuilt Plow at Fort Dodge, Iowa

By J. L. PARSONS
City Engineer and Street Superintendent

THE piling and removal of leaves from deciduous trees is a real problem every fall for the street-cleaning departments of our American cities. For some years, we piled the leaves by hand labor. Later we rebuilt a snow buck and pulled it behind a truck, manipulating it by hand. This method required two men and a truck and was slow and laborious.

Before the leaf season began in 1940, the Street Department conceived the idea of adapting a snow plow to this work. We had a plow that was adjustable, so that it could be operated at right angles to the curb. A heavy angle-iron was attached to the bottom of the plow, replacing the cutting edge; then one end of the plow, which is always run against the curb, was built up with sheet metal held in place by strap iron attachments so that the leaves would not spill over onto the adjacent park area between the curb and the sidewalk.

With this new snow-plow leaf-piler attached to the front of a truck, the leaves were gathered into large piles very rapidly and economically. On days when the leaves were very dry, and consequently blew around easily, the street flusher sprinkled the leaves in the gutter before the piler went to work, and this made them easier to handle with regular hay forks.

Snow-plow leaf piler used at Ft. Dodge, Iowa, developed from a Gettelman Hi-Speed Safety Snow Plow manufactured by The Heil Co., Milwaukee, Wisc.

Recreation for War Workers

The Pursuit of Happiness Is an Inalienable Right

By Paul V. McNutt
Federal Security Administrator and
Director of Defense Health and Welfare Services

• • • —

THE struggle for victory is waking up and vitalizing dormant villages, dormant industrial plants and tools, and dormant skills. It is also waking up dormant civic consciences and vitalizing community responsibilities. Every community service must be extended and strengthened to meet increasing needs in defense towns where the influx of workers taxes all facilities.

Wherever thousands of new workers and new families move in, recreation is a "must" on the list of community needs. The pressure of strange surroundings, of overcrowding, and of speed-up in industry threatens the morale, productivity, and health of war workers. Unless they can get wholesome recreation and relaxation for themselves and for their families, their continued efficiency is greatly handicapped.

"They get good wages—let them take care of their own recreation" is not the answer. There are two very good reasons why this is no solution:

First, many war workers, especially those with families, do not make enough money to buy recreation. After they have provided food, clothing, shelter, transportation, medical care, and necessary incidentals, very little money is left for amusements.

A second reason is that in many towns opportunities for wholesome recreation are limited—at any price. Play facilities, including commercial amusements, are swamped.

Where Shall They Play?

The only way war workers and their families can meet their own needs is by taking part in normal community activities. But they cannot play in the parks if there are not enough parks. They cannot bowl if the few alleys are always taken or are not open when the worker has free time. They cannot go to a movie if the theater which provided for a population of 5,000 now must provide for 10,000. They cannot pursue a hobby if there is no room for a workshop. And they cannot get recreation at home if they live in a small house with other families.

Community recreation programs must be extended to take in large numbers of these war workers. Community and neighborhood recreation centers, school auditoriums and gymnasiums open after school hours, organized games and activities on playgrounds—these are some of the ways that workers and their families can be given an opportunity to particapte in wholesome leisure-time activities, and thereby become more useful citizens in the community.

These services will cost money, but we can afford the cost of them much better than we can afford to do without them. Without them, adults and adolescents must turn to beer parlors, gambling joints, dance halls, and other unsavory places which are doorways to prostitution and crime. Children must play in the streets where their lives are in danger, and where idle mischief may become juvenile delinquency. The rate of minor crimes among adolescents in England has shown a marked increase since the war began. Money spent for recreational leadership, space, and equipment will in the long run save much money and human misery.

A well-integrated community recreation program, bringing together all agencies, both public and private, is the only efficient way to meet the problem. In the marshalling of the total recreational resources of the community, it is essential that the municipality itself take the lead and discharge its responsibility from public funds. Public agencies will, as a rule, furnish the leadership, but private agencies must have full representation, and their activities must be coordinated with the whole program in order to secure united community effort. The Office of Defense Health and Welfare Services and its Recreation Section stand ready to help. Services of representatives of this Office are available to any community desiring to set up a recreational program for war workers and fighters.

Recreation is not one of the nonessentials that we can dispense with during wartime. The "pursuit of happiness" is an inalienable right. The American people need recreation, and they need it now, as a part of the war effort.

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Charlie Chaplin in "The Great Dictator":

"I DON'T want to rule or conquer anyone. I should like to help everyone—if possible—Jew, Gentile—black man—white.

"We all want to help one another. Human beings are like that. We want to live by each other's happiness—not by each other's misery. We don't want to hate and despise one another. In this world there is room for everyone. And the good earth is rich and can provide for everyone. The way of life can be free and beautiful, but we have lost the way.

"Greed has poisoned men's souls—has barricaded the world with hate—has goose-stepped us into misery and bloodshed. We have developed speed, but we have shut ourselves in. Machinery that gives abundance has left us in want. Our knowledge has made us cynical; our cleverness hard and unkind. More than machinery we need humanity.

More than cleverness, we need kindness and gentleness. Without these qualities life will be violent and all will be lost."

A 70 Per Cent Reduction in Street Maintenance Costs

Tonawanda, N. Y., Has Salvaged Old Waterbound Macadam with Low-Cost Surface Treatment of Asphalt and Chips

By HENRY J. DE WITT, JR.
Superintendent of Highways, Tonawanda, New York

IN 1920, the Deerhurst Park section of Tonawanda, N. Y., began to develop rapidly as a subdivision. The network of streets serving this area was paved with waterbound macadam, maintenance of which proved to be excessively expensive. The sucking action of automobile tires loosened the stone and started disintegration. Then rain-water was able to penetrate the base to the subgrade, resulting in the presence of considerable moisture under the pavement, which produced frost boils in the spring. These frost boils further loosened the macadam and generally destroyed the entire street structure. The uneven condition of the pavement made it impractical to use the city's power sweeper to clean the streets.

Some way had to be found to preserve the balance of this waterbound macadam pavement as a base and to waterproof it against the further entrance of moisture. This was accomplished by a program of low-cost surface treatment construction, begun in 1928 and continued at four-year intervals ever since This construction has built up a tough, water-shedding mat approximately 1-inch thick, closely resembling sheet asphalt in appearance. At the beginning of the program in 1928, the old macadam was bladed carefully to the proper grade and crown, after which a light penetrating oil was applied as a prime coat. The streets were then given an application of Texaco special macadam binder, a heavy liquid product having a high asphalt content. This binder was spread hot over the surface at the rate of ½-gallon per square yard, and then covered immediately with ¼-inch stone chips.

Subsequent applications of the binder at four-year intervals have been lighter than the initial treatment, being reduced to ⅓-gallon per square yard for the second application, and ¼-gallon per square yard thereafter.

As a result of this inexpensive program of rehabilitating the old water-bound macadam streets, the maintenance costs have been cut approximately 70 per cent. Further, these streets can now be cleaned in the same easy, economical manner as the hard-surfaced streets by means of the power sweeper.

One of the streets in Tonawanda, N. Y., economically resurfaced to improve riding quality and to conserve the old waterbound macadam as a base

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Air-Raid Instructions to Motorists

THE Office of Civilian Defense has issued (on December 11, 1941) the following official instruction to motorists:

Follow these rules if you're out in a car when an air-raid starts. Do these things at once:

1. **Pull over to the curb**
2. **Park the car**
3. ***Turn off all the lights***
4. **Get *out* of the car**
5. **Take shelter *in* the best available place —indoors if possible**

If *you're* on a *bus* remember that the *bus* must stop when the warning sounds. Get *out* of the *bus* and take shelter.

If unable to shelter yourself indoors, sit down; if bombs start dropping near you, lie down. Cover your ears with your hands. Protect the back of your head.

If you meet a warden, go where he tells you to go, promptly and cheerfully.

CAUTION—Don't leave your car in the middle of the street. Don't double-park. Don't run—walk.

Keep cool. Keep your head.

F. H. LAGUARDIA,
U. S. Director of Civilian Defense.

As Told to THE AMERICAN CITY *in an Interview with City Manager Cookingham*

Effective Municipal Management In Kansas City, Mo.

THERE are two kinds of city managers. Most of them are administrators; a few are builders. The job to be done in Kansas City, Mo., following the Pendergast dethronement, called for a builder who could draw his own plans. L. P. Cookingham, City Manager of Saginaw, Mich., and of two cities before Saginaw, was made City Manager of Kansas City by the City Council headed by Mayor John B. Gage on June 10, 1940.

Budget Management

On September 1, 1940, a mechanized budgetary-control system went into operation with the aid of T. Coleman Andrews, consultant, Richmond, Va., who had already surveyed the work and needed only to know what controls were desired. The new system, using National accounting machines, replaced single-entry, handwritten bookkeeping, and now controls all but the detailed objective accounts in the general and subsidiary ledgers of a 500-page budget.

Personnel Management

In the old days there were 5,200 city employees, which the reform administration of Mayor Bryce B. Smith reduced to 4,200 in 1939. The present administration turned over 2,300 of these 4,200 employees, and cut personnel to 3,300, which is the size of the present force. There had never been any position classification plan, nor any constructive examination program, in the Personnel Department which was run by three employees. The staff of this department has been increased to 14, and in August, 1940, the Council appropriated $7,000 for a job survey which reduced class titles from about 530 hodge-podge

Budget report and budget working papers at Kansas City, Mo.

titles to 330 uniform titles and established specifications for each class of position. A compensation survey was made among 600 local business establishments to fix fair salaries and wages for the city employees. The new plan went into effect on March 1, 1941. Qualifying examinations are being conducted for present employees, in which 70 per cent of the present staff have qualified, and eligible lists resulting from open competitive examinations are being used to fill vacancies.

Tax Management

Antiquated laws had permitted a tax mess to develop, wherein valuation raising and tax abatement were common practice. Assessments were also made by the county which controlled the top or total figure, but the accepted total could be anywhere from five to fifty million dollars below it. For a study of scientific assessment by J. L. Jacobs & Co., the city contributed $60,000, the county $90,000, and WPA $400,000. The new plan, not yet in operation, includes full data and a photograph of each building, and takes into account economic obsolescence. With uniform assessment practice, there will be no occasion for tax abatement, and the city will know where it stands on taxes.

There had been no tax bills, payment being made in person and requiring about an hour of each taxpayer's time. A mechanized tax-accounting and billing system was established. From February 1 to April 1, 1941, 400,000 addressograph plates were made carrying the taxpayer's name, address, and description of property. From these the tax-roll, ledger card of taxpayer, and his bill are printed in one operation. The tax amounts are printed on these documents, in one operation, by Burroughs tax billing machines. From May 1 to June 1, 1941, the 350,000 personal and real-estate tax bills were prepared. The operation consumed 28 working days and next time will be performed in 21 days. The saving in expense in the Treasurer's and Assessor's offices will amount to $35,000 per year, though the new system would be worth while to the poor taxpayer even if there had been no direct money economy, which there was. Along with the bill was mailed a folder telling of the improvements being made by the new city government. The results were that (1) more people paid their taxes earlier than usual and (2) there was outspoken approval of the new system.

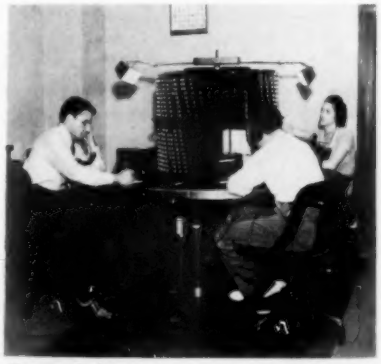
Water Management

An engineering survey of the Water Department, started before the present administration took office, was completed soon afterward. Mayor Smith had cut the personnel of the Water Department from about 900 to 645, and the new management cut the 645 down to 430 employees. The first year's surplus was sufficient to build the $900,000 water-softening plant now under construction, to purchase for $50,000 a site for a new garage, storage building, and shop, and to erect

it at a cost of $350,000. Because of war conditions, the garage has not been built, although funds are available.

One of the water headaches was an $11,000,000 term-bond issue coming due in two years. During the preceding 18 years, interest had been paid ($9,000,000 worth) but no sinking fund accumulated. To fund this, $7,757,000 worth of general obligation bonds were sold bearing an average interest rate for 20 years of 1.86 per cent, against the old rate of 4½ per cent, and $3,243,000 worth of revenue bonds at a slightly lower rate also were sold. All these bonds will be retired in 20 years through annual payments out of Water Department revenue, and the interest cost of slightly more than $3,000,000 will likewise be met.

A modern Burroughs-mechanized accounting system was installed. A visible Flexoline index file system of customer information was installed which made it possible for a person asking for a water connection to get his contract in not more than 4 minutes instead of 40 minutes as was sometimes formerly required. The Flexoline index file lists 90,000 consumers by location in the city and by name of customer.



Rotary index listing over 9,000 accounts

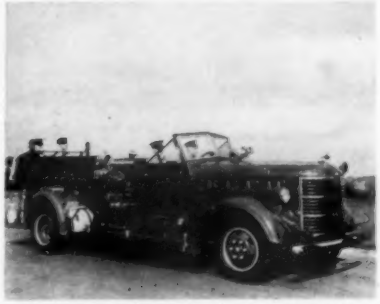
This index stands on a table, at which are seated three dispatch clerks each with a telephone connection with the desks of the contract clerks. When there is an application for a contract, the contract clerk telephones the name and address of the applicant to a dispatch clerk, who gets the ledger and account number of the premises from the index, goes to the ledger with his telephone which he plugs in, and reads the facts to the contract clerk. At present the order to make the connection is sent by pneumatic tube to another office where the inspectors are located. Later, this order will be sent by Teletype.

At top, Addressograph section of assessor's office; below are the tax-billing machines in the finance department

A new stock-control system using a Burroughs-Moon Hopkins bookkeeping machine controls transactions in approximately 7,000 classes of water department items.

Fire Management

No new fire aparatus had been purchased in nine years. The new administration has purchased six pieces from American-La France, Seagrave, Detroit General, and Peter Pirsch. One hundred and sixty new men have been added to the personnel of 550; the fire prevention force has been reorganized, and 8 men now do three times as much inspection as was formerly done by a larger force. All this is now reflected in the reduced losses.



New 750-Gallon American-La France Pumping Engine

The city has had the full cooperation of a public-spirited committee of the local insurance agents' association in revising its insurance program, with substantial improvements in coverage and an annual saving of more than $4,000.

Where there had been but 21 playgrounds poorly operated, from a point of view of equipment and personnel, there are now 56, with a winter program in 8 community centers. Three hospitals and the prison farm have been rehabilitated. Hog raising at the farm has already made a net profit of $7,500. Modern techniques have been introduced into the prisons and the clinics.

What of the future? Are these improvements permanent? Will they be developed and perfected until Kansas City will step alongside Cincinnati and Milwaukee as one of the few wonders of metropolitan municipal government? Mr. Cookingham is laying the groundwork for effective municipal administration. Now it is up to the people—taxpayers and business interests. Can they take it?

Wartime Items from City Officials

When Thousands of New Workers Flock into a City

BURLINGTON, IOWA.—The location of the Iowa Ordnance Plant adjacent to Burlington created a great many problems for our municipal government.

Burlington has normally a population of 26,000. Within a short time after the actual construction of the Ordnance Plant started, thousands of people flocked into our city. This situation naturally created a tremendous housing problem. In normal times Burlington had few empty houses. How could we arrange for the accommodation of several thousand newcomers for whom homes obviously could not be erected over night? There were 13,000 workers engaged in the construction of the Iowa Ordnance Plant. These people either had to be housed in our city or within commuting distance; and we know that considerably more than half of them have taken up residence within our corporate limits.

Housing Committee Formed

The city government immediately formed a Housing Committee to study the problem and to devise ways and means of accommodating our newcomers. This committee functioned very efficiently. The following are some of the measures that were adopted:

1. Most of the men engaged in the construction work here were either single or came without their families. An appeal was made to the residents of our community to rent out to these newcomers every available room that could possibly be spared. In response to this appeal, hundreds of our home owners who never before had rented out rooms threw open their homes and took in roomers.

Burlington, like every city, had a goodly number of large old houses which had been abandoned or were being only partly used. Our Housing Committee persuaded many of the owners of these houses that it was their patriotic duty, as well as an economic advantage to them to remodel these homes and convert them into nicely furnished apartment houses as speedily as they could. This plan worked very well, and I know of no owner who is sorry that he acted on this suggestion.

2. Many trailer camps were set up in and near the city, and these accommodated large numbers of workers. The United States Government also helped ease the situation by bringing in and installing several hundred trailers.

3. Private building of homes to be rented out was encouraged. While this program was not, of course, any immediate answer to the problem, it is well under way at this time, and several hundred new homes are being built or will be constructed shortly.

4. The United States Government built 575 units. Part of these are now completed, and the remainder will be occupied shortly.

The Traffic Problem

There are a number of other problems that arose by reason of our sudden influx of population. One is the greatly increased traffic problem. The city set up a Traffic Safety Committee to make recommendations to the City Council on this subject. This arrangement has worked very effectively and, while our traffic problem is not solved by any means, it has at least been partly alleviated. The city contracted for a new traffic signal system at a cost of approximately $30,000, which will be installed shortly.

Another problem is the devising of increased recreational facilities. To this end the city formed a Recreational Committee, which has functioned very efficiently and has done much to increase the recreational facilities of the city.

The influx of several thousand newcomers created also a law-enforcement problem. The city engaged a number of new policemen and adopted other measures to aid in law-enforcement.

There are a number of other wartime matters that I might discuss if the space allotted to this article permitted. In conclusion, it is my belief that any community confronted with a situation similar to ours can, to a large degree, solve its own difficulties if the proper effort is put forth and if the best minds in the community are put to work on the various problems presented.

MAX A. CONRAD,
Mayor.

Defense Projects Solicited and Serviced by Georgia City

MACON, GA.—The experiences of the city of Macon and of Bibb County, Ga., in locating and servicing defense projects began in August 1940, when our people began to realize that the absence of such projects not only deprived us of growth and trade, but was actually resulting in "shrinkage," caused by the migration of our workers to other communities where such projects were available.

A group of Macon citizens, in cooperation with the newspapers, Chamber of Commerce, and representatives from surrounding counties and cities, appointed a delegation to go to Washington where, aided by our Congressman Vinson and Senators George and Russell, the possibility of centering some portion of the defense program in our community was to be explored. The trip was made and the subject was discussed with President Roosevelt. As a result, an available site which had been utilized as an encampment during World War I was designated as the location of Camp Wheeler, a training center of some 17,000 to 20,000 men.

Securing Leases for the Projects

In this connection, we were required to secure and finance leases upon some 10,000 acres of land and to make such acreage available to the government at a total rental of $1 per year. Since the rentals to be paid to the owners of these properties would exceed $25,000 per year, and the initial cost of extending water service to the site would entail an expense of some $75,000, financing in the amount of $100,000 became an essential.

The city of Macon and Bibb county agreed to share jointly the expense of Camp Wheeler and such other projects as might be secured and, in order to provide funds for so doing, secured passage of constitutional amendments permitting the issuance of debt certificates for defense purposes in the aggregate amount of $300,000. The certificates were sold at auction, the successful bidder being the one agreeing not only to pay par value for the certificates, but also to accept the lowest interest coupon. The certificates were so sold with an interest coupon of .825 of 1 per cent per year. Funds for the repayment of the city's share of such certificates are to be derived from a 45 per cent increase of license taxes and, for the county's share, by an increased millage levy of ad valorem taxes, all of which was agreed to at the outset and recommended in a mass meeting attended by a large majority of the merchants, large taxpayers, and prominent people of our community.

Other projects obtained for our community were: a Naval Ordnance Plant which would afford employment, when completed, for some 3,500 to 5,000 persons; a basic air training school, Cochran Field, with a personnel of about 2,500; the Georgia Air Depot, to cost approximately $25,000,000 and to

employ an estimated 5,900 workers; and last, the stationing of mobile air depot groups at our Municipal Airport which had been greatly improved somewhat earlier in the program. For all these projects, sites were provided by the city and county without cost to the United States.

Housing and Services

Aside from the initial expense of the projects, service facilities such as housing, water, sewers, roads, police, and recreation have been expensive. Although this portion of the program is not complete, great progress has been made.

Our private builders, with the financial aid of FHA and the local banks and insurance companies, have already supplied great numbers of housing units in fulfillment of a promise to supply 1,500 units within 18 months from June 1941. The prospect is such that we are confident that such a number, and probably more, will be completed within the time allotted.

Through the help of our State and Federal Highway Boards, and with the aid of funds made available by the recent Cartwright Bill, our road program seems assured in its most important features.

Our municipally owned water plant has made, or is making, every needed extension of its lines and to its plant equipment. Our traffic system has been revised, parking-time limits being strictly enforced with parallel parking substituted for angular parking on our important streets. Substantial contributions for recreational facilities have been made by the city and county and by thousands of the people in this community.

Beneficial Effects

Our work on the problems consequent to the locating of these defense projects has been expensive but, despite all this expense, the financial credit of the city and county has not been impaired. The hardships have been more than offset by the grand spirit of all citizens who have "backed" and shared in these efforts. Our people have received the soldiers, aviators, sailors, and newcomers with open arms and have made every effort to make their stay pleasant; the morale of our people has been immeasurably benefited; and we are very grateful to the Federal Government for permitting us to participate in the preparedness efforts of our country.

CHARLES L. BOWDEN,
Mayor.

New Utilities Built; City Limits Extended

GADSDEN, ALA.—Gadsden has the distinction of having the greatest gain in population of any city in the nation during the 1930-40 decade, according to the last Federal Census, the gain being 53.8 per cent. This represented a steady growth and not a boom. Since the 1940 Federal Census we have had a still larger increase in population due to defense activities in our city.

Our principal industries are steel, rubber, textiles, shells, and pipe. Our steel mill during the past year started a $10,000,000 expansion; one textile mill started a $3,500,000 expansion; and, a government-owned shell plant was completed during the year. The contract for this shell plant, built outside the city limits, represents an expenditure of $24,000,000. We have also had many small plant expansions.

These expansions brought many new workers to our city. They had to have homes and, though our local property owners have done a fine job in erecting many new houses, they could not keep pace with the influx of new families; so we called on the Federal Government for some defense homes. The government tried to give us trailers, then wooden barracks, frame houses—but we finally succeeded in getting 250 brick homes. These houses were located near our shell plant and our rubber plant, but immediately outside the city limits.

Three years ago it was necessary to build four new school buildings with a total of 66 rooms. This past year more buildings were needed, so we built three more schools with 37 rooms; but we are still crowded and have called on the Federal Government for a school building of 16 rooms. The contract for this building was let this month, and the Federal Government is also furnishing funds to operate this school.

New Filtration Plant and Other Utilities

All these expansions have necessarily called for water and sewer extensions, new streets, and increased garbage collection. Fortunately, a year ago we anticipated the need for additional water facilities and we have built an entirely new filtration plant at a cost of a million dollars. This plant has been completed about three months.

Our recreational facilities were not sufficient, so we called on the Federal Government for two recreation buildings. These have already been approved and construction will start at once.

Inasmuch as our city was designated a defense area and we had only an emergency landing field, we applied for funds for a modern airport. This application also was granted, and work is now in progress. We are furnishing the land which consists of 500 acres.

City Limits Extended

The location of the 250 defense homes and of the shell plant outside of the city limits would not bring the city any revenue, although those living in these homes and working in the plant would receive the advantages of our city facilities. Before these homes were completed we had an election called by the people in that area, and both the defense homes and the shell plant territory were taken into the city limits. We will receive 15 per cent of the shelter rental of the defense homes in lieu of taxes; we will not collect any property tax on the shell plant, as it is Government owned; however, we will receive 2 per cent of the cost of the electric current used, which will be a substantial amount.

We have adopted a policy not to furnish water or sewer facilities outside the city limits. This last year we annexed another area consisting of 1,600 acres. This covered a section in which there are many fine homes. They secured their water from wells, which was entirely satisfactory, and the property owners tried to get the city-owned water mains extended to serve them for several years, offering many different propositions. Our answer was "City water for citizens of Gadsden. Vote your section into the City and we will extend our water mains." There were only two dissenting votes and we have added approximately 1,000 to our population and have added this property to our city tax rolls.

A year ago Gadsden covered 12.83 square miles. Today, with the territory which has been annexed, it covers an area of 17.07 square miles.

The Financial Picture

Four years ago the city of Gadsden owed accounts payable and loans from banks in the amount of $302,845. At the end of the last fiscal year our report shows accounts payable *none*—bank loans *none*. The legal debt margin in 1934 was $384,000; at the end of the last fiscal year it had grown to $442,170. In the past four years we have reduced our interest expenditure by $57,550 per annum.

Now that we are at war, we shall have to make many sacrifices as individuals and as governments. We

must curtail or postpone construction programs which do not enter directly into our war efforts. We shall suffer losses in our municipal revenue. Our city has a 2¢ gasoline tax which, due to tire and automobile rationing, I believe will be reduced at least one-third. And privilege licenses will also be affected, as well as other sources of revenue.

We shall have to be very thorough in our planning, and coordinate our every-day local government operations with our defense activities.

J. H. MEIGHAN,
Chairman, Gadsden City Commission.

Municipal Services of Mobile Overtaxed by Defense Activity

MOBILE, ALA.—The locating in Mobile of a number of large industries and Brookley Field, the United States Army Service and Supply Depot, created an urgent need, even before the present emergency, for expansion of water and sewer systems, a new hospital, a city jail, as well as expansions and additions to the refuse-collection, police and fire departments. These needs have been magnified many-fold now that we are at War. The situation has reached the critical stage.

Many of the industries are undergoing tremendous expansion: this is especially true with respect to shipbuilding. Some of the largest contracts have been awarded to plants located here, and it is expected that within a few months there will be no less than 25,000 men employed in the yards here. The housing shortage will be acute. Every effort is being made to have the Federal Government provide homes for the many thousands of defense workers who will be brought here. Surveys of water and sewer expansions have been made, and plans to support applications already filed have been made.

This startling growth, due in a large measure to defense activities, has been so great and so rapid that it is impossible for the city to meet the urgent necessary needs.

There has been a corresponding increase in the number of motor cars. This added congestion in our streets, many of them narrow, has created an additional problem. Parking in the downtown area has been greatly curtailed, and this has resulted in some improvement. Further study is being made by traffic experts in order that this problem may be improved as far as possible.

The entire community is now being organized to meet any sudden development. Blackout ordinances have been prepared and adopted: every department is being placed on the alert. Many thousands of our citizens, both women and men, have volunteered for service. This large group includes all the physicians and nurses and men and women of all professions and vocations. Assignments to duties and sectors are being made, and all available ambulances, trucks, and cars are registered.

In this old historic city, over which six flags have flown, the spirit of our forefathers has been revived. We are pledged to give and give and fight and fight until the safety of our Nation is assured. We are now either Americans or traitors.

CHARLES A. BAUMHAUER,
Mayor-President, Board of Commissioners.

Traffic Deaths Reach 40,000

ACCORDING to the National Safety Council's computations, no less than 40,000 persons were killed in traffic accidents on the streets and highways of the United States during 1941. This all-time peak was about 16 per cent above the 1940 figure of 34,501. The previous high mark had been set in 1937 with a traffic fatality toll of 39,643.

Accidental death from all causes totaled 101,500—the third highest on record. The figure represented a 5 per cent jump over the total of 96,885 in 1940, and compared with 110,052 in 1936 and 105,205 in 1937.

Among the dead were about 18,000 workers killed in occupational accidents and 29,000 killed in off-the-job mishaps. Accidental deaths in the homes dropped 3 per cent from 33,000 to 32,000 and public fatalities, not including traffic, fell 3 per cent from 15,00 oto 14,500.

The number of vehicles in use in 1941 was 5 per cent above 1940 and the increase in travel was 11 per cent, the council said, reporting that on the basis of mileage, the 1941 traffic death toll was up 4 per cent.

Reproduced from THE AMERICAN CITY *for December* 1924

For Want of a Municipal Playground

Preparedness for Post-War Urban Redevelopment

By Clarence S. Stein
Architect, F.A.I.A.

Only those cities that have the foresight to prepare themselves for necessary post-war transformation of the form and pattern of their communities will have a chance of holding their share of the ever-decreasing population growth and of preventing migration to the suburbs and to other more forward-looking cities.

WHEN the war ends, the readjustment to peacetime industry will be quite as sudden and on as large a scale as the complete reorganization of industry which is taking place at present. It is generally recognized that large-scale rebuilding of blighted areas will have to be undertaken not only to bridge the period of industrial readjustment, but also to meet the requirements of a changed world.

It took a year and a half and Pearl Harbor before industry was ready to reorganize completely on a war basis. The change-over to the large-scale rebuilding of our cities will have to be made more rapidly if we are to escape a disastrous period of general unemployment. So that we may be prepared, it is imperative that we begin now to see the problem as a whole and find a well-rounded solution.

New conceptions of city planning are needed. New and revised governmental agencies are essential. The functions of private organizations in financing, building, and operating must also be reoriented and reorganized. The control of land and its use must become primarily a "public use" for the good of the city. All this must come before we can start to build intelligently. Unless the groundwork for these changes is laid before the end of the war, we shall repeat the blunders of the past and thus plant seeds for future blight and municipal bankruptcy.

Broad-Visioned Program Essential

Certain partial steps have already been taken toward the reorganization of procedure in city building so as to transform it from the small, competitive, lot-crowding, speculative game of the past into large-scale integrated community building with a public purpose. Public housing has indicated the advantage of such planning and building. Redevelopment corporation laws have been passed in a number of states. What is now needed is a more broad-visioned integrated program.

The new "Handbook on Urban Redevelopment for Cities in the United States," published by the Federal Housing Administration,* offers a well-rounded plan of procedure. The Handbook maintains that the transformation of our cities is primarily a municipal responsibility and therefore the city cannot remain a disinterested bystander. It must become an active partner in a going concern, the fortunes of which vitally affect the entire community. In fact, unless the city is willing to assume leadership, the chances of any real recovery from civic blight are negligible. Each plan for rehabilitation or redevelopment must be conceived and worked out as a vital part of the replanning and the rebuilding of the city as a whole. ". . . Any constructive program must . . . not produce conditions which cumulatively will defeat the program objectives; . . . recreate conditions similar to those it is intended to eradicate. And . . . the very system by which changes are to be adapted must be available for further changes when these become necessary. . . ."

Furthermore, in order to be effective, the program undertaken will have to be on a large scale. It will require a substantial period of time to execute. It must be economical so that the total rentals will not be beyond the total means of those who are to live in the city. Therefore, it cannot be restricted to providing housing for low-income families which cannot support the urban facilities of the areas occupied by such housing, but must include housing for families of wide ranges of income and substantial quantities of self-supporting commercial and other non-residential uses. Thus the program consists not merely of housing, but looks to the replacement of the obsolete cities with a new form of urban environment.

Agencies

The Handbook proposes a coordination of three principal agencies for the purpose of carrying out a well-rounded program of redevelopment: a city planning agency—a branch of the municipal government; a city realty corporation—a corporate arm of the government; and redevelopment corporations, or private investment companies. In some cases, the city housing authority may replace or work side by side with private redevelopment corporations.

"*The planning agency* will prepare the master plan studies that will serve as the groundwork for the rehabilitation program . . ." and "will then indicate the places in which the city realty corporation legitimately may sell, lease, hold, or withhold tax-delinquent properties in the light of municipal needs and municipal financial obligations; and the sites upon which the first rehabilitation or redevelopment

* See page 111 of this issue. The report was prepared for the Federal Housing Administration by Frederick Bigger, who has made good use of his long experience in connection with the planning of Pittsburgh and of greenbelt towns.

A Vital Part in Your Defense Planning
THE L-M PRISMALITE

In planning protection of vital municipal property don't overlook the necessity of providing adequate defense lighting. And when you consider defense lighting don't overlook the L-M PRISMALITE.

The L-M PRISMALITE can be used for any lighting which you need to give complete protection against sabotage to your pumping stations, reservoirs, power stations and other public buildings.

The scientific design of the new prismatic glass reflector of the L-M PRISMALITE results in high, effective light output. Because glass is not affected by atmospheric conditions, the initial efficiency of the PRISMALITE is never impaired.

Constructed and designed so as to be dustproof, the PRISMALITE does not require cleaning except at infrequent intervals. When cleaning is needed, the reflector can be quickly removed, immersed in a cleanser and its original reflectivity is restored. Complete interchangeability of PRISMALITE parts helps further to make maintenance easy and economical.

Many choices of mounting, refractors, heads and receptacles makes the PRISMALITE adaptable to any lighting requirements. Too, the PRISMALITE can be used on either series or multiple lighting circuits.

Before you choose any luminaire for defense —or street—lighting investigate fully the advantages of the L-M PRISMALITE. Ask your L-M salesman, or write Line Material Company, Milwaukee, Wisconsin, for L-M Bulletin 4131.

LINE MATERIAL COMPANY

projects should be considered."

The city realty corporation proposed will be a corporate arm of the municipal government to which the city will entrust the acquisition of sites for redevelopment and for other municipal purposes. The corporate device is suggested because it "could operate with approximately the same flexibility as ordinary business corporations. Thus, trading of parcels of land is possible. A second consideration . . ." is that ". . . borrowing should be on the credit of the property acquired and not on the general credit of the city. . . . Under the corporate device properties held by a city-owned corporation can remain on the tax rolls without affecting the present debt limit." ". . . The city realty corporation is to act as the business agent of the local government (or governments, if legally made possible): (a) in acquiring sites, (b) in negotiating contracts with privately financed redevelopment corporations for the execution of rehabilitation or redevelopment enterprises, (c) in dealing with any state or federal agency that may make contributions to or otherwise participate in a redevelopment program, or specific enterprises in such a program, and (d) in maintaining records and reporting regularly on the financial phases of both proposed and operating redevelopment and rehabilitation enterprises."

Private *urban redevelopment corporations* are to be given the task of financing, building, and managing redevelopment projects. They are to be assisted and directed by the city planning and realty agencies, which will coordinate their activities with those of municipal housing authorities. As all condemnation of land and ownership will be under the control of the city realty corporation, legislation for the forming of private redevelopment corporations can be simpler and more limited in scope and it is likely to be far more effective than the redevelopment corporation legislation that has been enacted in New York and Illinois.

The most important omission from the FHA Handbook is any indication of the need of new sources of capital if the large-scale building operations are to be economically and socially successful. The old method of speculative equity and costly mortgages is too wasteful. What is more, speculators or mortgaging companies will no longer play the gambling game unless the government insures them against all risks. The large-scale projects that are proposed, which must be carried and operated until they are amortized, must be financed on the investment basis. Investment housing is different from speculative because it is planned, built, and operated for the purpose of establishing and maintaining the security of its investment rather than realizing quick profits and unloading. The main source of finances for investment capital must be the large insurance companies and banks. The Metropolitan Life Insurance Company with its $50,000,000 investment at Parkchester (in the Borough of The Bronx, New York City) has pointed the way.

Land Policy

The Handbook recognizes that successful planned rebuilding of our cities is possible only by drastic changes in methods of dealing with the development and control of land. The form of our cities has been set by "subdividing land into ever smaller parcels for sale into multitudes of ownership. Habits have been acquired which gradually have crystallized in laws and procedures. It has grown ever easier to break up land and distribute it."

"The prevailing attitude . . . has been to discourage or prohibit the acquisition of land by municipal governments, except for specific and immediate use for well-established public purposes, and to favor or require the transfer to private ownership of any municipally-owned lands not used for such public purposes."

Quite the opposite attitude is now needed. The rebuilding of urban communities must be made a public purpose for which land can be condemned. "This is a larger and more comprehensive public purpose than the purposes ordinarily underlying the exercise of this kind of power."

For rehabilitation to succeed, sites must be obtained at a reasonable price. Present values—so-called—of land are too generally based not on realistic hope of return for the use of land, not on the purchasing power (income) of the community, but on fantastic expectations that never can be realized.

Many cities have found it necessary to keep up the artificially inflated value of properties on the assessment rolls, because their tax or debt limits are dependent on assessed valuations. Deflated land values would mean serious problems, and in some cases even municipal bankruptcy. But unless property values in substandard blighted areas are deflated to a point where economical redevelopment without overcrowding the land is possible, these areas and cities will continue to lose their population which ultimately means almost certain bankruptcy.

Apparently there are but two answers to this difficulty. One is for the national government to bale out the cities, subsidize them and the property owners to pay for the pretended value of the land. This is naturally favored by the National Association of Real Estate Boards, which would then like to see land again subdivided and exploited. The other answer, which is favored by the FHA Handbook, is a common-sense deflation of land values and a thorough-going reform of taxation and public finances—city, state, and national—so that cities may proceed, "with an avoidance of or a minimum of public subsidy," in redeveloping blighted areas and remaking their physical structures. As one means of obtaining land at a fair price, the Handbook advises that when property is condemned for public use, there should be no payment for substandard structures.

In order to safeguard the future, one of the basic principals of procedure outlined in the Handbook is ". . . that lands in redeveloped blighted areas shall be owned by the community and leased to private interests . . . and to public housing agencies which may build and own structures thereon. . . . This policy of municipal ownership and long leaseholds . . . assures the community that it will not be necessary to pay heavy penalties at some later time to acquire land in order to eliminate undesirable conditions or undertake any new redevelopments that may be needed then."

The Handbook shows careful research and a well-rounded knowledge of the many perplexing problems that must be solved and the conflicting agencies that must be integrated if our cities are to put their houses in order, and find a logical, sane basis on which to recreate their physical structures as fitting backgrounds for a good and economically sound life.

NEW LOW COST PER GUTTER MILE

"Our A-W Patrol Sweepers are averaging better than twenty miles daily, at the extremely low cost of approximately 30c per gutter mile. Since we are forced to contend with most adverse sweeping conditions, such as sand blowing in from the surrounding desert, and an over abundance of leaves, our ability to sweep our streets at such a consistently low figure is a source of great satisfaction."

SPEED UP SPRING CLEAN-UP

● For a better, quicker, more economical Spring clean-up of your streets, put the A-W Patrol Sweeper on the job. The Patrol is a compact, simplified and quick-dumping sweeper that rapidly picks up all kinds of dirt . . . operates efficiently on all types of pavement. Its revolving side broom reaches into every inch of the gutter . . . dislodges Winter's accumulation of compacted dirt.

The demonstrated ability of the A-W Patrol Sweeper to clean thoroughly and fast, to maneuver in congested areas . . . and to stay on the job with a minimum of cost for maintenance . . . has won it the job of cleaning the runways at Government flying fields. 225 A-W Patrols are now in use in these vital areas. Write for details on engineering features and performance advantages that have caused more A-W Patrol Sweepers to be purchased during the last four years than all other makes combined.

THE AUSTIN-WESTERN ROAD MACHINERY CO., Aurora, Illinois

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Do you mention THE AMERICAN CITY? Please do.

Prostitution—— Major Wartime Threat

A WARNING that venereal infections constitute a major threat to military efficiency as well as to the civilian war effort is contained in a pamphlet, "Prostitution and the War," just released by the Public Affairs Committee of New York City.

The pamphlet was prepared by Philip S. Broughton of the Federal Security Agency and reflects the official policy of the government in dealing with prostitution.

Stressing the magnitude of the problem, Mr. Broughton points out that "in peacetime millions of dollars are wasted in industry every year as a result of venereal infections. . . . In the First World War 7,000,000 days of service were lost to the U. S. Army. . . . A total of 338,746 men—the equivalent of twenty-three divisions — received treatment."

Repression rather than segregation is urged as a means of combatting the danger. "In some places," Mr. Broughton admits, "it has been thought that segregation and inspection is the answer. Prostitutes are licensed by law or by extralegal police tolerance. They are placed in houses or restricted areas. They are made to undergo regular physical examinations, which are supposed to insure their noninfectiousness. . . .

"But the U. S. Public Health Service, the Army, the Navy, the Conference of State and Territorial Health Officers, for reasons completely satisfactory to them, oppose segregation." The facts show that "inspection of houses of prostitution is not medically effective. . . . The segregated district has not, in fact, tended to lower the venereal disease rate, but has generally increased it.

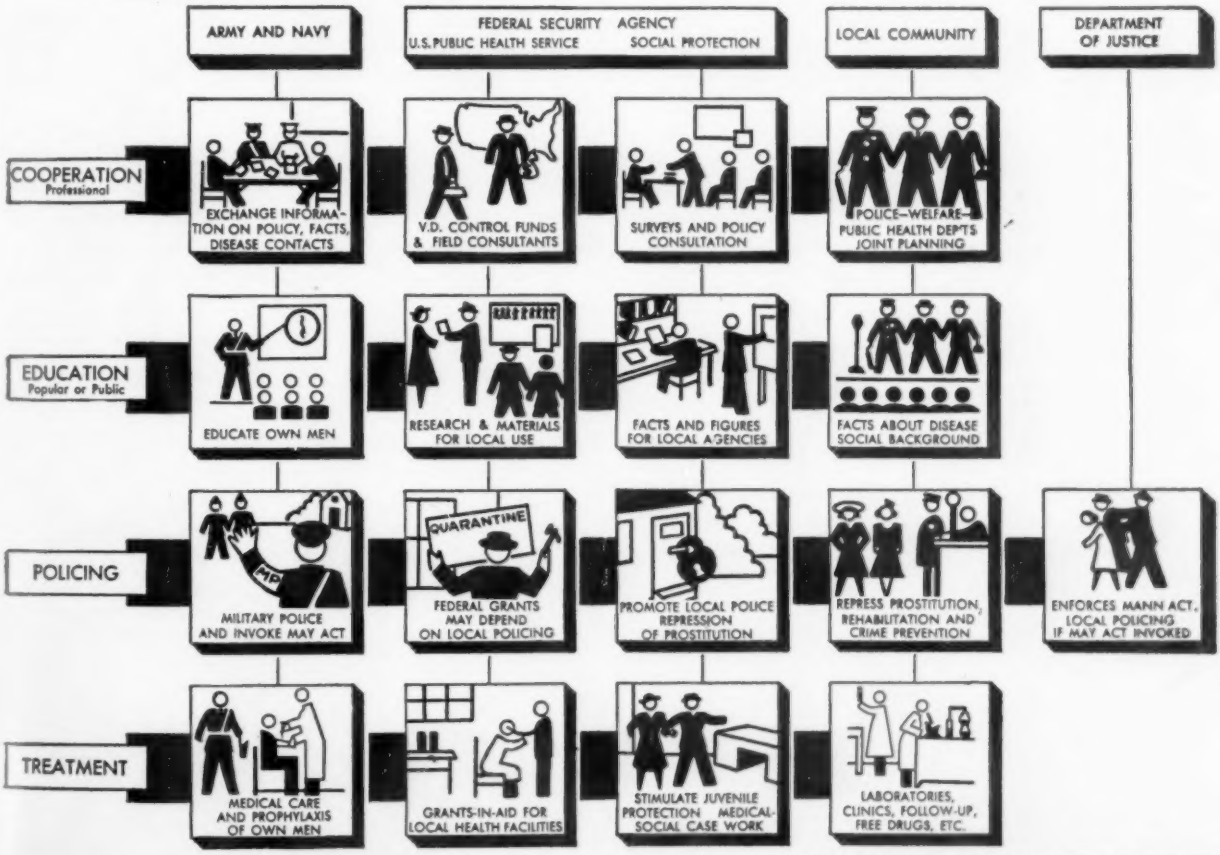
"Vital in prevention is realistic, intelligent policing," Mr. Broughton adds. "All too often has policing of prostitution been directed at the victims and underlings. Effective control must reach the responsible individuals.

"Policing that does not nip the business at the source—the people who promote and profit from it—is not likely to have any permanent effect upon prostitution or the venereal disease rate of the community.

"In addition to the repression of commercialized prostitution," he concludes, "there must be methods of caring for and treating the women and girls arrested for prostitution. That requires action which will permit and help them to return to normal life."

—The American Social Hygiene Association is cooperating in the the distribution of "Prostitution and the War." The pamphlet is the sixty-fifth of a series of popular, factual, 10-cent pamphlets published by the Public Affairs Committee, 30 Rockefeller Plaza, New York.

PUBLIC AGENCIES WORKING TO CONTROL VENEREAL DISEASES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EDUCATION
Popular or Public
EDUCATE OWN MEN
RESEARCH & MATERIALS FOR LOCAL USE
FACTS AND FIGURES FOR LOCAL AGENCIES
FACTS ABOUT DISEASE SOCIAL BACKGROUND
POLICING
MP
MILITARY POLICE AND INVOKE MAY ACT
QUARANTINE
FEDERAL GRANTS MAY DEPEND ON LOCAL POLICING
PROMOTE LOCAL POLICE REPRESSION OF PROSTITUTION
REPRESS PROSTITUTION, REHABILITATION AND CRIME PREVENTION
ENFORCES MANN ACT. LOCAL POLICING IF MAY ACT INVOKED
TREATMENT
MEDICAL CARE AND PROPHYLAXIS OF OWN MEN
GRANTS-IN-AID FOR LOCAL HEALTH FACILITIES
STIMULATE JUVENILE PROTECTION MEDICAL-SOCIAL CASE WORK
LABORATORIES, CLINICS, FOLLOW-UP, FREE DRUGS, ETC.

PICTOGRAPH CORPORATION, FOR PUBLIC AFFAIRS COMMITTEE, INC.

Tire-Rationing Program to Have Far-Reaching Effect on Motorists

Motorists Urged to Stop Unnecessary Driving; Purchase Certificates To Be Issued Only to Those In Seven Sharply Defined Classifications

WASHINGTON, Dec. 26.—The nation's average motorist will be prohibited from buying new automobile tires under eligibility requirements established today for the government's new tire-rationing program.

Seven sharply defined groups have been exempted as follows:

1. Vehicles with a capacity of ten or more passengers operated "exclusively" to carry passengers as part of "services rendered to the public by a regular transportation system";
2. Vehicles used by physicians, surgeons, visiting nurses, or veterinarians, principally for professional services;
3. Ambulances; 4. Vehicles used "exclusively" for fire-fighting ser... enforce...

PUBLIC TRANSIT Was Never So Important

Do All You Can to Help It!

Government urges use of public transit. As a result of wartime restrictions on the use of rubber tires for private cars, public transit was never so important as it is today. Government authorities have urged the public to use public-transit facilities instead of automobiles, and in the future those who have been accustomed to drive their cars to work and to play will have to rely more and more on public transit.

Public transit has a bigger job than ever. Prior to the entry of the United States into the war, the National Defense Program had already caused an increase in transit riding of more than 5,000,000 passengers per day. Now, with the country at war, stepped-up production for war purposes and the restrictions on the use of privately owned cars will increase public-transit loads even further.

Here's how you can help. Obviously, public transit has a tremendous job to do. You can help in many ways —by improving the enforcement of traffic regulations, by freeing loading zones and improving traffic-control systems, by reducing traffic peaks through recommending staggered working hours, and by giving your local transit company all possible assistance in carrying out the tremendous job that it is called on to assume for the duration of the national emergency.

Public transit is vital to victory. Public transit has always been vital to the life of your city; today, it is vital to the life of your country. Do all you can to help it—right now! *General Electric, Schenectady, New York.*

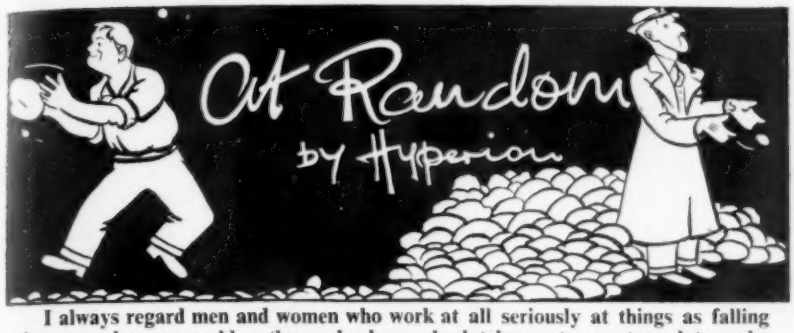
General Electric and its employees are proud of the Navy award of Excellence made to its Erie Works for the manufacture of naval ordnance.

ENCOURAGE PUBLIC TRANSIT—IT'S THE WAY TO MOVE PEOPLE

GENERAL ELECTRIC

Life's Lighter Side in Wartime Britain

Cartoons and Quips from recent issues of "Local Government Service," the official journal of the National Association of Local Government Officers (of England and Scotland)



I always regard men and women who work at all seriously at things as falling into two classes, roughly—those who leave absolutely no stone unturned to make the thing they are at a success, and those who turn just enough stones to make it just about do.—*Sir Robert Morant.*

In Britain Now

Farmhouse recipes. Lemon curd without lemons, chutney without sugar, fish cakes without fish, 2/6 the three; stamped addressed envelope.—*Advt.*

* * *

Hint for the Chancellor

"*You don't know the first thing about syntax.*"

"*My goodness, is there a tax on that, too?*"

* * *

Local Government Dictionary

Committee—a contrivance by which persons who separately can take no effective action, collectively decide that no effective action can be taken.

* * *

The Female Form Divine

She can best be described as having a beautiful profile all the way down.

* * *

He asked her where she didn't get the bathing suit.

Her waist, like the Equator; is an imaginary line.

* * *

The Miracle

An old woman at the Ulster frontier was asked if she had anything to declare. No, nothing at all. But what was in the bottle? Oh, only holy water, holy water from Lourdes. The customs officer pulled the cork.

"Whisky it is," said he.

"Glory be to God," said the offender. "A miracle!"

* * *

The Philosopher

A woman whose house was half-demolished by a bomb said, surveying what was left: "Well, the chimney wanted sweeping, anyhow."

* * *

Trials of a Worm

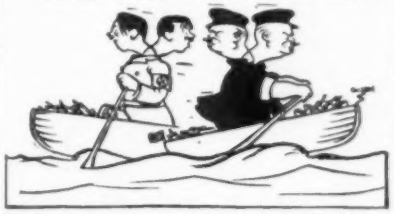
Returning home from the office, Jones remarked to his wife:

"These gas-masks seem to get heavier with carrying."

"Yes, dear," replied his wife, sweetly. "You went away this morning with the box we keep the electric iron in."

Awful Thought!

"Perhaps Hitler will decide to invade



England on the same day that we decide to invade the continent."

* * *

The Golden Minute

"The chairman reported that the mayor had been in the service of the Corporation for fifteen years and was now suffering from paralysis of the hindquarters. Resolved, that it be put out to grass."

* * *

Local Government Post-Bag

Dear Sir,—I am informing you that I am going to have my Pig killed on Tuesday afternoon, Novr. 4, and also my Mother, Mrs. X, the same day.—Yours faithfully, ——

* * *

I enclose herewith 440 clothing coupons for expectant moths.

* * *

Inventions Department

An Air Ministry man told me of two ideas sent them for dealing with night bombers: (a) to erect gigantic vacuum cleaners and suck the bombers out of the skies; (b) to fill the upper air with chloroform so that air crews would be anæsthetised.

* * *

History Repeats Itself

Scene—A hotel.

Little Girl: "*Oh mummy! They've given me a dirty plate.*"

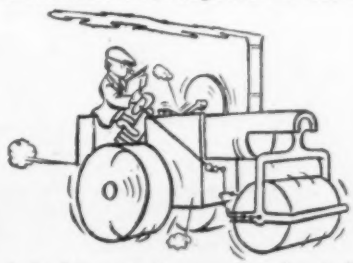
Mother: "*Hush, darling. That's the soup.*"

"Punch" (in 1917).

* * *

Wireless Humour

"My other brother Joe used to drive a steam-roller for the borough council. But 'e's



lost 'is job now, because they found 'im goin' 'ome to tea on it."

Love's Labour Lost

A gang of demolition men had been working on the ruins of a London suburban house for a couple of days, doing the job with that leisurely thoroughness which we have so often noticed of recent months. And while they worked, handing out bricks and occasionally finding a cap or a garment, they were watched by a pipe-smoking man who leant over the front wall. He said nothing, did nothing, just watched with mild interest.

Towards the end of the second day the foreman found his presence annoying and he

went to the watcher and said, "Are you interested in this 'ere property?" The man puffed for a moment and then replied, "Sort of! As a matter of fact I'm the man who used to live there."

The effect on the foreman was immediate. He shouted to his gang, "Knock off, boys," he said. "Here's the bloke we've been looking for."—"*Lilliput.*"

* * *

Local Government Post-bag

"I had intended coming to the Milk Office to-day, but have had 15 children this morning."

"Perhaps you can arrange for me or my wife to view the range of shelters, so that we can have one suitable to our means."

"I enclose doctor's certificate and palpitation of the heart."

"Play the game, Jenkins—you rang the bell last time we were out."

How to Treat the Income-Tax Collector

"I can't be bothered with the income tax, Billy dear," he said when a distraught Sybil presented him with buff-coloured forms; "they're probably quite decent fellows. Write and tell them I haven't any money. Look, there's a starling outside my window behaving in the most curious way."

—*From Daphne du Maurier's life of her father,* "*Gerald.*"

The insert shows a Foster Standard Siren . . . steam or air operated . . . 50 pounds minimum to 250 pounds maximum pressure, 425° F. total temperature.

NO SISSY . . . THIS SIREN

This new siren is no sissy, for it not only can be heard for miles but it needs no pampering. The simple design includes but few parts, and these are constructed to withstand "emergency service."

Furthermore, it works fast—its rising sound pitch or howl reaches its peak in from three to five seconds, depending on the maximum pitch for which this siren is set. And—it can be used for signaling because of its sharp sound cut-off.

If a constant pitch is desired, this siren can be so ordered or factory converted into a revolving cylinder-type of horn which produces practically a single pitch from starting to full speed, as contrasted with the conventional siren action with rising pitch or howl.

Complete information on this siren is contained in illustrated folders available on request. Write for Bulletins 41-S1 and 41-S2; there's no cost, no obligation.

FOSTER ENGINEERING Company

133 MONROE STREET • NEWARK, N. J.

2-FE-3

Air Raid Sirens for Cities

That Air-Raid Siren

CITY GOVERNMENTS throughout the country are expressing the liveliest interest in air-raid sirens and whistles. The installation of such a signal is the least, first, and most important precaution that can be taken. If it is never needed, so much the better; if it ever is needed, nothing else could be quite so essential. A brisk warning of danger is a long step to safety, as those who have heard "low bridge" and "look out below" can testify. Every month brings better information on what's right about sirens and whistles. The initial requirement is for a distinctive pitch or tone which differentiates the signal from any other sound in the area.

Sirens for City Districts

LARGE AREA PLUS ORDINARY CITY NOISE, noise within buildings (particularly industrial plants) and interference of large buildings are only a few factors which make it impossible for one siren to be heard throughout many cities. For efficient air-raid warning a large community should be zoned and each zone carry its own air-raid signal. Important buildings within each zone—plants, schools, office buildings, apartments, and even private homes (estates)—should also have their own air-raid warning signal. The illustration below shows the use of hand-operated sirens.

E. T. H. HUTCHINSON,
The Sparks-Withington Company,
Jackson, Michigan.

New Siren Gives 33 Blasts Per Minute

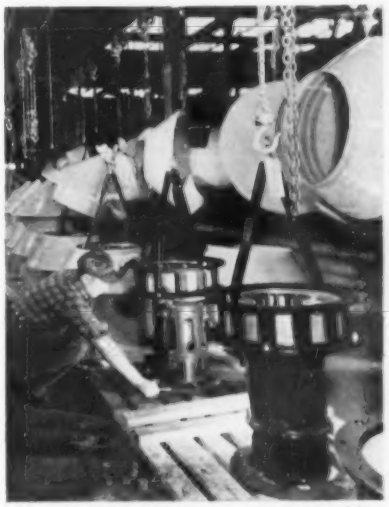
THE SIREN SHOWN at the right has been installed in Norfolk, Va., Birmingham, Ala., Hastings-on-Hudson, Hudson, N. Y., Ridgewood and Belleville, N. J., and other cities. It operates on steam or air at 50 to 250 pounds pressure and has a rising sound pitch that reaches its top in three to five seconds.

The siren is available in two sizes, one with 3-inch rotor and 8½-inch horn; the other, of deeper tone, with 4½-inch rotor and 19-inch horn. Its valve simplicity furnishes a sharp cut-off, so that it can code, with as many as 33 blasts per minute. The sound registers 120 to 130 decibels at a distance of 100 feet compared with the 100 decibels of an automobile horn at only 23 feet. The frequency is 250 to 550 cycles, depending on the valve adjustment and the type of brake shoes furnished by the Foster Engineering Co., Newark, N. J.

Large and Small Sirens for Vehicles

WHILE OUR ELECTRIC SIRENS ARE DESIGNED PRIMARILY for use on vehicles and not for air-raid purposes, we believe your readers might perhaps use the information that our complete line includes a large siren 14 inches long and 8 5/16-inch projector diameter.

PERSONS-MAJESTIC MFG. COMPANY,
Worcester, Mass.

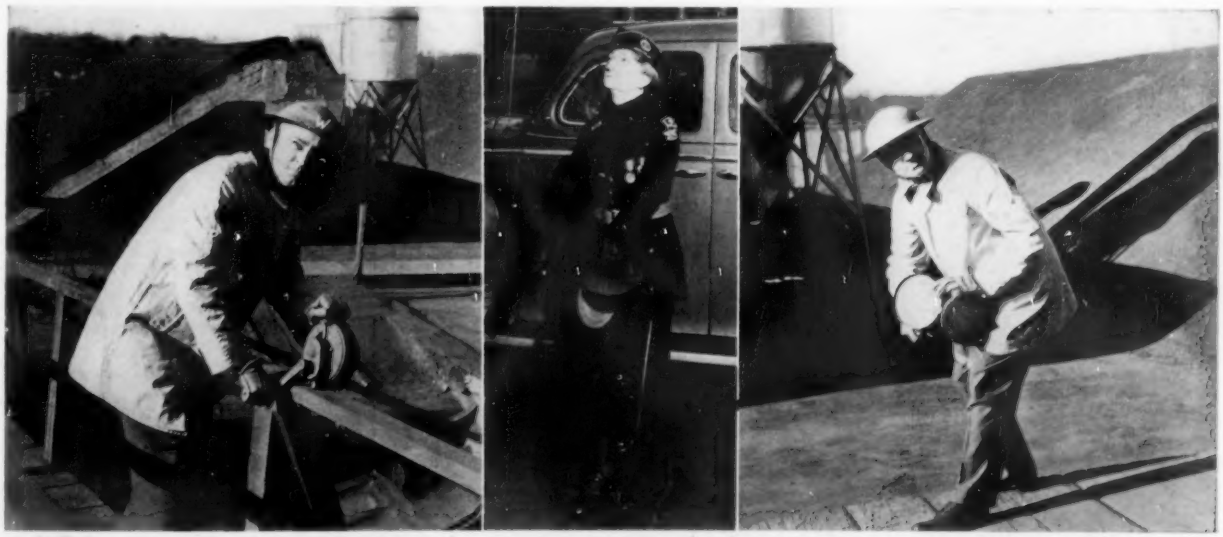


Air-raid sirens being assembled for shipment to cities; production exceeds 500 sirens per day at this plant of the Federal Electric Co., Chicago, Ill.

Gasoline-Driven Siren

MOST POPULAR OF ALL SIRENS ordered on the Pacific Coast since the Pearl Harbor incident appears to be the gasoline-driven siren which assures prompt warning of air raids even when there is power failure. The full revolving feature of this unit permits full power to be extended in any direction, thus increasing its range over the non-directional type. The unit we make is operated by a 4-cylinder automobile engine.

G. R. HUFFMAN,
E. D. Bullard Company, San Francisco, California.



Thousands of these portable hand-operated sirens have been delivered to the Allies during the last year for use by individual fire and air-raid wardens, police officers, and plant guards

THE GAMEWELL COMPANY

★ ★ ★ *Specialists in Public Safety* ★ ★ ★

MANUFACTURERS OF EMERGENCY SIGNALING SYSTEMS

★ FIRE ALARM ★ AIR RAID WARNING ★ AUTOMATIC FIRE DETECTION
★ POLICE SIGNALING ★ INDUSTRIAL FIRE ALARM ★ FIRE AND WATCHMEN'S SUPERVISORY

•

Two thousand municipalities, several thousand industrial plants and many of the largest institutions now use Gamewell Systems for the protection of life and property and to ensure the permanency of established business. We freely cooperate in planning protective Signaling Systems.

GAMEWELL

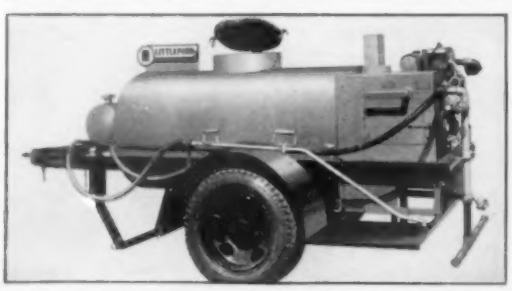
NEWTON UPPER FALLS, MASSACHUSETTS

Keep the Defense Roads Open

★ ★ ★

101

UTILITY SPRAY TANK



Now is the time to get our roads in tip-top shape. The Littleford No. 101 Utility Spray Tank is just the unit to do the work. Has facilities for doing three jobs—Has Spray Bar for small application work, Hand Spray Attachment for patch work, and Draw-Off Cock for crack filling. Keep our Defense Roads open with Littleford Road Maintenance or Construction Equipment.

LB LITTLEFORD

BLACK TOP ROAD MAINTENANCE EQUIPMENT SINCE - 1900

LITTLEFORD BROS., INC.
500 East Pearl Street, Cincinnati, Ohio

On Camouflage and Luminous Paints

Defense Paints

We are manufacturing blackout paints, camouflage paints, traffic paints, and special paints for street-lighting standards and fixtures, for transformers, concrete floors, structures and plant maintenance. Camouflage paints, in particular, are manufactured to standard shades recently set up by the Government Defense Commission, in connection with the National Paint, Varnish and Lacquer Association, Washington, D. C.

H. L. CLEMMER,
Vice-President, James B. Sipe and Company, Pittsburgh, Pa.

Luminous Pigments

For making luminous paints, we furnish a variety of luminous-paint pigments which are simply mixed with clear high-grade lacquer or Damar varnish free from dryers. An ounce of pigment is mixed with about an ounce of varnish or lacquer and will cover one to two square feet. It may be sprayed on or flowed on with a fine brush on almost any kind of material. Two thin coats cover better than one thick coat. Dark surfaces or bare metal should first have a coat of zinc white.

These materials shine brightly in the dark after exposure to light, a few seconds' exposure giving them their maximum charge. Some of them, particularly the green, will shine in the dark for hours.

HAMMER LABORATORIES,
Denver, Colo.

Luminescent Paints

To date, the development work in paints resistant to infra-red filter photography has been in concealment or camouflage paint for military and industrial plant use. These paints are of the non-reflective type for general camouflage for buildings and structures and are obtainable in nine colors, light green, dark green, sand, field drab, earth brown, earth yellow, loam, earth red, and olive drab.

Another development that is receiving serious consideration is Luminescent paint. The fluorescent types glow only when activated by ultra violet (black) light. They are very satisfactory for marking strategic points, such as air-raid shelter entrances, steps, etc., where permanent installations of ultra-violet light are possible.

Phorsphorescent-type paints are activated by natural or artificial visual light and will glow in darkness. The glow time varies with the type of paint, length of time, and the intensity of the light to which it is exposed. They will undoubtedly find a wider variety of uses for marking strategic points where a period of darkness will be relatively short. These paints could be used for marking important valves, instrument dials, steam pressure gages, switches, corridors, exits, in industrial and city plants. Thus, in case of temporary failure of a lighting system or during a blackout, workmen could readily carry out emergency operations.

MCDOUGALL-BUTLER CO., INC.,
Buffalo, N. Y.

War and Peace Paints

Our laboratories are working intensively on the development of satisfactory luminous paints and camouflage paints. In all probability some of the camouflage finishes will be utilized on highways and roadways about industrial plants. We of course have had traffic paints in the white and yellow for many years, and these are comparable to the average, first quality traffic paints on the market today. We have also given thought to the correct paints to apply to water, electric and sewage plants, machinery and equipment, concrete and wood floors, hydrants, street and floodlight standards, fire-alarm boxes, and motor vehicles.

In according consideration to what may be termed war paints, it might be well to examine possibilities of painting interiors to improve working conditions through the combination of color and light, as discussed at the 1941 Convention of the Illumination Engineering Society.

R. C. SHEELER,
E. I. du Pont, de Nemours & Company, Inc., Wilmington, Delaware.

Concealment Paints

In the consideration of the new blackout paints it should be borne in mind that mere blackness or black paint may accentuate daylight visibility. Black structures are easily photographed. Consequently, invisibility at night should be combined as far as possible with invisibility to the camera by day, by selecting blackout colors which harmonize with the surroundings. The U. S. Gutta Percha Paint Co., Providence, R. I., recommends a lustreless olive drab of a shade similar to that used on military vehicles and gun mounts, and applied on the outside.

Painting Out Reality

Camouflage paints for concealing strategic military and civilian objectives by making them blend in with the colors of the surrounding earth and foliage to prevent spotting by aerial cameras and bombers are made by the Sherwin-Williams Co., Cleveland, Ohio, in such colors as field drab, earth brown, and dark green according to color standards established after years of testing by Army experts and are said to meet with the requirements of the Office of Civilian Defense.

The new paints, for spreading over roofs, buildings and streets, dry without gloss or reflections and permit streets to be "painted out" or non-existent streets to be "painted in," and make conspicuous objects merge into the natural background. They adhere to practically any type of surface from glass to asphalt roofing and may be spread over blacked-out windows, roads, sidewalks, tanks, or smokestacks.

Industrial building groups can be made to look like a row of cottages; strategic roads can be rendered inconspicuous and faked roads introduced, running across fields, factories, houses, and whatever happens to be in the way.

SIRENS
BY SPARTON

AIR RAID—FIRE! EMERGENCY!

A LINE of sirens, horns and emergency signals famous for more than forty years for precision manufacture.

MODELS 37, 38 and 39

A series of big, rugged, high-powered, non-directional electrical sirens that have a penetrating siren howl which carries for 2 to 5 miles. Particularly suitable for large areas such as municipalities, airports, government properties, industrial or defense plants, universities and public utilities. Strong, serviceable, precision-built; comparable to units costing considerably more.

Base has three lugs for installation on roof. Base threaded for standard 2½" pipe for high altitude mountings; guy wires can be attached to lugs. Made in three sizes with universal motor operating on 50 to 60 cycle AC single phase or DC current. Equipped with screens to keep out bugs and birds. Constructed to withstand all weather conditions.

Volt	Height	Diam.	H.P.	R.P.M. Approx.	Weight
Model 37—110-120 AC-DC	25¼"	14"	1	7600	82 lbs.
Model 38—110-120 AC-DC	30¼"	14"	2	6800	93 lbs.
Model 39—220-230 Single Phase AC	30¼"	14"	3	5700	105 lbs.

MODEL 35. A directional siren for small communities, railroad yards, docks, warehouses, car barns, business buildings, apartments, industrial plants, local fire stations. Equipped with screens to keep out bugs and birds. A practical, rugged alarm for protection against intruders, sabotage and all civil, military and industrial emergencies; long-lasting weather-proof construction for unfailing service. Operates on 110 volts, 60 cycles AC. Ht., 9½"; length, 14"; wt., 15¾ lbs.

MODEL 36. Equipped with flare for efficient projection of tone. Effective for emergency vehicle use, motor cars, trucks, ambulances, fire and police cars, motorcycles, boats. Endorsed by law enforcement authorities, air wardens and marine patrols. Gives a loud, penetrating blast. Directional. Equipment includes 9 ft. of cable and push button for installation in any location desired. High speed motor. Available in 6 volt, 12 volt, 32 volt. Ht., 9"; width, 7"; length, 11"; wt., 11 lbs.; rotor diam., 5½".

MODEL 601. As designed for use on Army Tanks. Ideal for police, fire and emergency cars, ambulances, motorcycles. Rugged, all steel construction; housing and base of heavy drawn steel stampings. Equipped with 6-Port-opening rotor. Directional. Available in 6, 12 and 24 volts DC—R.P.M. 7000 Approximate. Wt., 4¼ lbs.; diam., 4¾"; length over-all, 6¾"; ht., inc. base, 5⅞".

WRITE FOR BOOKLET 590-S for further information

THE SPARKS-WITHINGTON COMPANY
JACKSON, MICHIGAN
1900-1942

Timely
TRAFFIC SIGNAL
BLACKOUT CONTROL
BY *Eagle*

The new EAGLE BLACKOUT CONTROL unit is an accessory to existing installed traffic-control equipment and provides:

Complete and effective traffic control under normal and emergency conditions.
Normal operation: full efficiency and brilliance.
Effective signal over entire surface of standard 8" lens and established sequence during blackout conditions.

No masks or other makeshift accessories are required on the signal faces.
Will operate with all makes of controllers.
Available for both remote control and isolated operation.
Economically priced.

Write for information and quotation.

EAGLE SIGNAL CORPORATION
Factory and General Office, MOLINE, ILL. Executive Sales Office, BOSTON, MASS.

Keeping Glass from Flying

By R. A. Miller
Pittsburgh Plate Glass Co.

A SURVEY of air-raid casualties in Great Britain shows that a large proportion of personal injuries are caused by splinters of flying glass. While there is no method of preventing the fracture of window or plate glass under blast or impact, certain types of flat glass, such as tempered glass, laminated safety glass, and wire glass enjoy greater resistance than ordinary glass.

Plate glass used in internal partitions, show cases, and other fixtures is almost as liable to fracture and to dangerous scattering as is glass in external windows. Plate glass in doors, and in sliding or hinged windows, is somewhat less vulnerable than in fixed windows, provided the door or window allows some degree of movement. It is desirable to fasten *all* doors wide open during air raids, and usually it is advisable to open windows.

Open Windows

If either auxiliary shutters or storm sash are used, care should be exercised to see that the permanently installed windows are *nearly* wide open and that *no effective "double glazing" is provided*. This statement is not effective if the glasses involved are either Herculite, laminated safety glass, or wire glass, or a combination of these glasses, in both lights. And since in any double-glazed installation, the inside light will be blown into the room, that light should be either tempered, laminated or wire glass, or if ordinary glass, adequately protected against scattering of the glass on the room inside. On this same basis, double hung windows should never be opened wide, so that they completely cover each other, but should be set so that only approximately two-thirds of either glass is covered by the next adjacent glass.

Fabric on Window

An adhered-fabric treatment does not make the breakage of glass less likely, but if appropriate to the weight and size of glass it affords a useful measure of protection against the scattering of fragments. A suitable adhesive, such as cellulose nitrate lacquer, may be brushed on the glass. When it has become tacky, a sheet of fabric or strong textile netting is pressed into the adhesive so that the whole glass area is covered; the fabric should also overlap the frame and be fastened to it. When the material is thoroughly set, a coat of lacquer or varnish is applied over the whole surface. To retain a reasonable amount of transparency, but at some sacrifice of protection, textile strips can be used. Strips should be not less than 1½ inches wide, and interspaces between strips should not be more than 2 to 4 inches each way. The ends of the textile strips or tape should be securely fastened to the frames. Almost any reasonably strong textile fabric such as cheesecloth, muslin, or lace netting will do. Any adhered fabric treatment must be made on both sides of the glass if truly adequate protection is to be obtained. This cannot be stressed too highly, and definitely should be observed. The transparent cellulose tape manufactured by the Minnesota Mining Company should be satisfactory for this purpose.

Sodium silicate adhesives or water glass should *never* be used because, although either one gives excellent adhesion, the glass will be permanently etched when the coating is removed. For the same reason, animal glue should not be used. Cellulose nitrate lacquer is satisfactory and readily available; so are glycerine glues and ordinary flour paste.

External plate glass can be protected by a backing of wood panelling. If greater protection and transparency are desired, a well-framed and supported wall of glass block can be erected.

Wire netting of ½-inch mesh will stop all but the smallest fragments of broken glass. Expanded metal mesh of similar size gives equal protection but less transparency. The netting must be securely fastened, that is by firm stapling or strongly nailed battens, either to the window frame or preferably to removable wooden frames. Maximum protection is afforded if these frames are hung freely so that they may swing away from the glass and thus lengthen the time during which they are absorbing the blow. The netting should be as close to the glass as possible without touching it. Netting of larger mesh than ½-inch has much less effect in arresting flying fragments and should not be used.

Curtains give *only a moderate* degree of interior protection against flying glass fragments. Two or three layers of burlap hanging loosely or attached to a swinging frame may be employed instead of more expensive curtain material.

Tempered Glass

When all is said and done, to keep ordinary window glass from flying, where and certainly when there is real danger of bombing, consideration should be given to the use of a tempered plate glass such as Herculite—the only form of glazing. Laminated safety glass, because of the plastic filler and the resulting tendency of the glass to remain adhered to that filler even when badly cracked and broken is the next safest form. It is, however, definitely susceptible to cracking and fracture, and when badly fractured is sufficiently flexible so that it may be forced out of the frame. Wire glass would be next in order of safety and less safe only because fragments of glass will fly from wire glass rather more than from laminated glass, where equal thicknesses are considered. In the event that one of these three types of glazing is used, the sash into which the glasses are set, should be more or less loosely fitted, so that they may move to a greater or less degree under impact of repercussion.

None of these glasses will afford protection against flying bomb fragments at close range. However, the Herculite will be materially less likely to fracture under direct impact than either of the other types of glass; and if fractured, will break into small cubical fragments, having more or less rounded edges, and no long shards. No single fragment of ¼-inch Herculite should weigh more than 0.15 gram. When broken by a missile, the broken glass tends to bind itself more tightly in the frame even though the missile may completely penetrate the glass. If broken by repercussion or concussion, the particles will not be of sufficient weight to fly very far though blown out of the frame, nor can there be any serious hazard of injury from those flying particles.

Glaze Safely Now

While we do not desire to be alarmists, there is no question that the public as a whole is, and should be, interested in taking every possible safeguard for the protection of life and property, and the preservation of health in the event we are subjected to an enemy attack. We believe that the installation of tempered plate glass will make an especially strong appeal to those institutions housing large numbers of people, particularly in the congested areas of the business district.

AIR-RAID ALARMS

SPECIFICALLY DESIGNED FOR THE PURPOSE

Long Range
Large Area
Coverage

DISTINCTIVE IDENTIFIABLE TONE

Unlike Police, Fire or Other Alarms

FOR DETAILED INFORMATION *Write*

SUPERSIGNAL CORP.

25 Beaver Street, New York City

The ULTIMATE in . . .
PUBLIC PROPERTY PROTECTION

The best protection you can buy for all public property is a Stewart Iron or Chain Link Wire Fence. Stewart Fences beautify as well as protect, and offer a lifetime of dependable, low-cost service. Before buying investigate the exclusive features of Stewart Fences. It will be to your advantage to do so.

Other Stewart Products for public property: Settees, Steel Folding Chairs, Wire Mesh Partitions, Trash Cans, Flag Poles, Bronze Plaques and many others. When requesting literature, please mention products in which you are interested. Sales and Erection offices in principal cities.

"Fence Builders to America Since 1886"

The Stewart
Iron Works Co., Inc.
821 Stewart Block
Cincinnati, Ohio

Stewart IRON and WIRE FENCES

A LOT for a LITTLE with PEERLESS PUMPS!

PEERLESS PUMPS

A lot of water in a little time. The many exclusive and outstanding features of Peerless Pumps give you the widest range of capacities—from 10 to 100,000 gallons per minute.

A lot of pump for a little money. Peerless, America's largest selling pumps, on the basis of identical specifications, cost no more, often less.

A lot of value for a little investment. Popular acceptance by every industry and all governmental agencies is a brilliant testimonial of Peerless Pumps greater value, longer service and sustained high efficiencies in the field.

A lot of service for little attention . . . Peerless Pumps require little or no attention after installation. Over the entire life of the pump, trouble-free Peerless performance cuts maintenance costs to the irreducible minimum.

Ask for Literature

PEERLESS PUMP DIVISION
Food Machinery Corporation
Factories: Los Angeles, San Jose, Fresno, Calif. and Canton, Ohio

WATER OR 1 OIL LUBRICATION
Peerless
TURBINE PUMPS

Wartime Safeguards for Public Water Supplies

Concise, Timely Points To Be Considered for the Preservation of Our Basic Utility

By CHARLES HAYDOCK
Consulting Engineer,
Philadelphia, Pa.

Forword

1. Water is the life blood of industry and domestic activity; guard it well

General

2. Formulate a definite emergency plan, suited to your individual conditions
3. Prepare an alternate plan, suitable if telephone and power service are cut off
4. In event of emergency, do not become excited; keep cool, act promptly, and remember that forewarned should be forearmed
5. Be certain that every member of your organization knows his duties and station in emergencies
6. Provide a place for everything and have everything in its place when not in use
7. If your supply is damaged, promptly consider restrictive measures to maintain a reserve for domestic uses and the fires that may follow
8. If your system is damaged, sterilize and flush the repaired section thoroughly before resuming service, particularly if sewage may have entered the mains
9. Improve your distribution system to function in emergencies
10. Investigate all standby sources that are likely to be available in emergencies
11. Sample your water supply frequently and investigate any change in quality

Personnel

12. Provide identification badges for all employees
13. Know the connections of all key employees
14. Instruct employees to report any unusual conditions and investigate them promptly. They may indicate serious developments
15. Have conveniently available telephone numbers and addresses of employees and protective and defense agencies

Protective Agencies

16. Maintain contact with protective agencies, such as local and state police and defense agencies. Confer with Federal Bureau of Investigation on special problems

Communications

17. Consider advisability of equipping maintenance cars and isolated, critical points with police radio
18. Provide telephones and radios for isolated, critical points

Your Neighbors

19. Contact nearby water systems and be prepared to cooperate with them
20. Inter-connect with all adjacent water systems that meet the standards of the State Health Department. A smaller system may be able to assist a much larger system in a nemergency

Reserves

21. Provide reserve supplies of all essential materials adequate for emergencies
22. Store your emergency reserve materials where they will not be damaged by an incident that damages a critical point
23. Save your reserves for a real emergency. Do not use them unless needed to maintain adequate service or unless their use will aid in the National Defense

Critical Points

24. Do not advertise the critical points of your system
25. Prohibit unauthorized access to and parking adjacent to all critical points
26. Erect protective fences around and floodlight critical structures
27. Patrol critical points and endeavor to have police do likewise
28. The use of airplanes is restricted. Special restrictions may be necessary for the critical points of your system

Records

29. Have adequate records. Do not depend on memory
30. Prepare multiple sets of records and keep the master sets in the safest possible place

Your Job

31. Water supply is the most important public utility, and your job in the National Defense is to see that the people in the area you serve have a sufficient supply of safe water at all times for domestic, industrial, and fire protection purposes

Recommended Reading

First Report of Committee on Water Works Emergencies
New England Water Works Assoc.
613 Statler Building, Boston, Mass.

Civil Defense
Headquarters, Second Corps Area
Governors Island, N. Y.

British Cities at War
Report of American Municipal Assoc.
Published by Public Administration Service
1313 East 60th Street, Chicago, Ill.

A Major Disaster Emergency Plan

Disaster and War Emergency Planning
International Association of Fire Chiefs
24 West 40th Street, New York City

Fire Defense
National Fire Protection Association
60 Batterymarch Street, Boston, Mass.

Report of American Observers in England
National Technological Civil Protection Committee
Washington, D. C.

"Nothing is more dangerous in a democratic state than a condition in which the people are persuaded that the fundamental instruments of its government are not equal to the tasks put upon them. To maintain the loyalties of men, these instruments must be able continuously to satisfy their hopes."

HAROLD J. LASKI

The GUARDSMAN

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**The overwhelming, overnight popularity of the GUARDSMAN—"Steel-Saver" File—has caused the step-up, many fold, of our original production plans, releasing multi-millions of pounds of steel for defense industries!*

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City Rubbish Incinerator Salvages Heat through Steam

Rochester, N. Y., Refuse Incinerator Has Close Controls for Operation as a Steam Power Plant

CONSIDERING the fuel, which is received in the form of rubbish from a city-wide collection system, the new rubbish disposal plant at Rochester, N. Y., is operated very close to the methods which would be employed in a first-class power plant with a stable fuel. Since the old Cobwell reduction system is still operating, garbage is collected separately and treated for the recovery of grease and tankage. Thus the plant receives only rubbish, including tin cans, while ashes are collected separately and taken to special city dumps.

All Loads Weighed

Each truckload of rubbish arriving at the plant is weighed on a Fairbanks platform scale equipped with a Printomatic recorder. This installation makes it possible to check the weight, the truck which delivers the load, and the district from which it collected. The major advantage of this procedure is the check on the total weight of this variable fuel delivered to the plant; but also makes possible the recovery of many valuable lost articles which have inadvertently been thrown out by householders. When such a loss is discovered, the scale house is called immediately to learn whether the truck containing the lost article has been weighed. If it has not already delivered its load to the plant, the weighman can watch for the truck and a search can be made on its arrival. This has resulted in the recovery of many lost articles and has built considerable good will for the collection system.

Charging

The trucks back up to the 1,800-yard capacity pit, which is 35 feet deep, and dump their loads by raising the truck bodies. A special 4-tong Williams grab bucket picks up the material and delivers it to one of the two sets of three loading hoppers on the charging floor. The pit is lined with sheet metal on the side toward the feeding hoppers and on the other side is equipped with an air scavenging system for collecting dust in the pit, the air being delivered to filter bags which remove the dust and release the air back over the dumping floor.

There is one man at each set of loading hoppers per shift, the plant being worked three eight-hour shifts for five days a week, or until all the collected material has been burned. In general the furnaces are shut down Friday night at midnight, but have been operated until Sunday when an unusually large number of loads were received or a very considerable amount of wet material was in storage which must be burned more slowly.

The induced draft fans for the furnaces are located on the charging floor between the two sets of hoppers. The grab bucket is operated by a P & H 3-ton electric traveling crane.

The Furnaces

The contract for the construction of the furnaces and their appurtenances at the plant, which was designed by Metcalf & Eddy, Consulting Engineers, Boston, Massachusetts, and engineers of the Department of Public Works of Rochester, was awarded to Morse-Boulger Destructor Co., New York City. The furnaces are of suspended arch construction, with side walls built in the same manner. The masonry wall between the furnace and the combustion chamber is the only one in the entire furnace construction. Beaumont-Birch air-operated charging gates are used with the air for the rams furnished by two Ingersoll-Rand motor-driven compressors located in the basement of the plant. The hydraulic-operated ash gates, with power delivered by a Roper hydraulic pump with push-button control, were furnished by the Beaumont-Birch Co. A similar installation designed by the Department of Public Works is used for dumping the grates. A Brown indicating-controlling pyrometer, giving the temperatures in the combustion chamber, plays an important part in the control of the operation of the furnaces, due to the heavy formation of slag at high temperatures. The combustion chamber temperature best suited to efficient operation of the plant is around 2,100 degrees Fahrenheit. Each of the three cell furnaces has a grate area of 135 square feet. In case a large quantity of wet material is received, a Peabody Engineering Corp. oil burner is directly connected to each furnace to assist combustion. Soon after the plant was placed in operation three years ago, it was found that the connecting flue from the combustion chamber of the furnaces to the boilers was not large enough to permit adequate generation of steam; and so while the plant was still in operation one furnace at a time was taken out of service and the area of the flue enlarged from 17 to 55 square feet. At the same time, the flue was tapped to trap slag in a water quenching bath as it runs down the sides of the flue.

The plant is built on a side hill, leaving a considerable area under the dumping floor which was finally paved and used for storage. In order to prevent the side hill from sliding in, Armco metal cribbing was built up from the concrete floor to protect this storeroom, where re-

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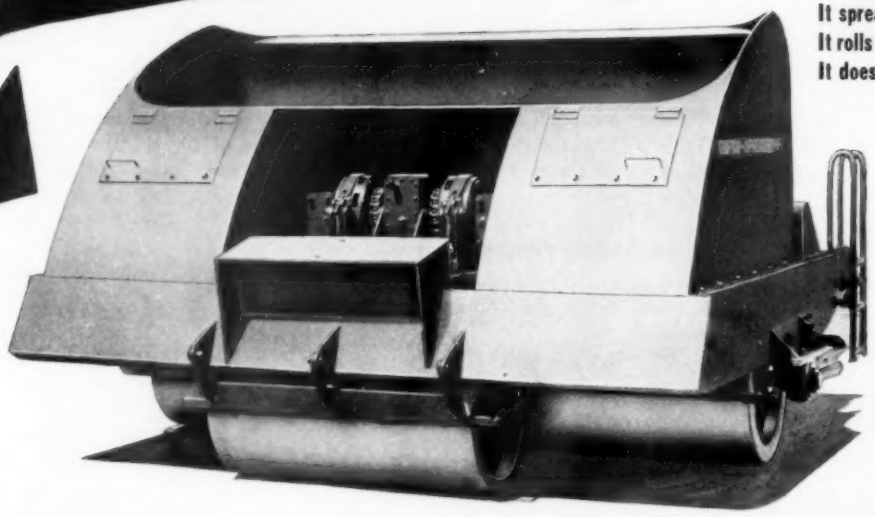

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The Spreaderoller applies a seal coat on bituminous treated mat base, segregating chips, spreading them in 3 layers—largest first, then medium and fines on top—and rolls them firm and smooth in a single operation at speeds up to a mile an hour.

The result is a tightly interlocked, water-repellent, anti-skid, "white top" surface ideal for airport runways, aprons and hangar floors, as well as for defense roads and thoroughfares.

Takes the place of both spreaders and rollers on maintenance, too! Time is short — get the facts today!

Days were lopped off the construction of this airport with a Spreaderoller. Top view shows coarsest material being deposited. Center view shows portable loading ramp removed.

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fractory brick in the various patterns and other spare parts required are carefully stacked.

The Boilers

The plant is designed to generate a maximum of 50,000 pounds of steam per hour, at 250 pounds pressure, for use in the adjacent Cobwell garbage reduction plant or to be offered for sale in the future. In order to augment the production of steam at the Rubbish Disposal Plant to meet the demand at the reduction plant, oil-fired auxiliary units are installed, with forced and natural draft, beneath the Keeler Co. Type CP bent-tube, two-drum water-tube boilers. These units are entirely distinct from the oil burners installed to assist in the combustion of wet rubbish. When the plant was constructed each furnace was equipped with automatic cold air dampers, operated by a reversible motor and controlled by the indicating pyrometer, so that when the temperature reached a predetermined point the dampers opened to reduce the furnace temperature. These units were disconnected, however, as it was found that all the available heat was needed for the production of steam. Boiler feed water is supplied from the reduction plant, as cooling water from the city water supply is used at that plant in the vapor condensers. This waste water is pumped to three insulated storage tanks of 6,000 gallons capacity each, located under the dumping floor where it is stored at a temperature of 180 degrees. It is then pumped by one of two Gardner-Denver centrifugal pumps to the Cochrane deaerating feed water heater, where the temperature is raised to 220 degrees. This heater is equipped with an automatic steam control valve and a Taylor temperature-recording gage.

In order further to increase the efficiency of the boilers, they have recently been equipped with retractable-type soot blowers made by the Diamond Power Specialty Corp., to augment the soot blowers originally installed.

The fuel oil used in the plant is received in tank cars on a siding near State Street, adjacent to and higher than the top of the plant, where it is heated and from which it flows by gravity to the two 15,000-gallon fuel oil storage tanks located beneath the dumping floor. No. 6 or bunker oil is used for fuel. Worthington helical gear pumps with General Electric gearmotors are used to deliver the fuel oil to the oil heaters and thence to the burners.

Indicators and Controls

An instrument board at the center of the stoking floor contains most of the recording and indicating instruments necessary for the proper operation of any first-class steam power plant. There is a Hays visual 7-point draft gage for each furnace and boiler, together with Brown 4-point recording pyrometer and two Cochrane flow meters, one of which measures the flow of oil to the burners and the other the oil flow returned to the storage tanks. For each boiler unit there is also a Cochrane steam flow meter with a pressure pen added; and then in the center of the panel is a Cochrane meter for recording waste steam, which is discharged to the atmosphere above the plant through an exhaust pipe equipped with a Maxim silencer. A single Hays CO_2 meter is installed, which may be shifted to record the content of the flue gas from one furnace or the other. Also on the instrument panel are the two hand wheels which control the speed of the two clarage induced-draft fans. There are also two A. W. Cash hand-automatic controls for the air-oil ratio of the oil burners under each boiler when employing forced draft.

Ash Removal

An ash tunnel at grade runs beneath the two furnaces, each ash pit being equipped with hydraulic-operated gates so that the ashes may be delivered easily to the Fruehauf semi-trailers equipped with Heil and Wood 20-yard bodies and hauled by Mack or Brockway tractor trucks. One trailer is parked under each furnace in the ash tunnel. There are eight of these semi-trailers in the fleet. It is a three-mile haul from the Rubbish Disposal Plant to the City ash dump.

The Chimney

The 250-foot chimney for the plant was built by the Alphons Custodis Chimney Construction Co., New York City. It has an 8-foot bore and is refractory lined from base to top. The chimney is 25 feet outside diameter at the bottom, and the lining is equipped with the usual wrought iron corset for strength.

Personnel

A minimum of labor is required for the operation of the plant. In addition to the two men at the feed hoppers and one craneman on the charging floor, there are two stokers per furnace, one man in the ash tunnel, and a watch engineer for each 8-hour shift. During the day, a weigh man, two dump men, an oiler, and a general foreman are also in attendance. Maintenance men are obtained from the adjacent reduction plant shop as required. The plant is operated under the general direction of John Kurzrock, Superintendent of Waste Disposal, who also has charge of the Reduction Plant. John V. Lewis is Director of the Division of Maintenance and Operation, Department of Public Works, which operates both plants.

Training for Public Administration

The University of Denver and the University of Minnesota have announced in-service training programs in Public Administration for men and women graduates of colleges and universities. The University of Denver is offering ten fellowships in Government Management for the 18-month period—September, 1942-March, 1944—application to be filed by April 1, 1942. A limited number of in-service fellowships in public administration are offered by the University of Minnesota for the year 1942-43, application to be submitted by April 1, 1942. Further information or application blanks may be obtained from either university upon application.

★ ★

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Traffic Control and Facilitation

Conducted by Publications Committee, Institute of Traffic Engineers, 60 John St., New York

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The Traffic of Blood, Sweat, Tears

By D. Grant Mickle
President, Institute of Traffic Engineers

WAR effort in 1942 and 1943 will not simplify the traffic problem, but can complicate it in many localities unless prompt action is taken by traffic and other public officials.

This is the first of a series of vital articles being planned under the direction of an ITE committee which is engaged in developing transport problems. Next month: Routing Traffic within Production Areas.

Efficient Transport—A War Necessity

Military activity, like the iceberg, is but the visible peak of a much greater war effort. The 18 workers behind each soldier, currently reported, do not include those who are actively serving these workers. Effective all-out military support must make provision for supplying food, clothing, fuel, shelter, tools, and materials to the entire civilian population. This requires effective transport of goods and people.

To this normal civilian need must be added the transport demands of war production and troops. Workers, also, must be transported to and from their jobs.

Defense Transport—1941

During the last year, military and supporting civilian activities have concentrated large additional populations in many areas. Indeed these unusual activities, tending and often producing overcrowding, have taken place in more than 700 communities, bringing acute problems of local transportation and traffic congestion. Most of this expansion occurred in or on the edge of large population centers because of the availability of the labor supply, transportation facilities, and other essential facilities. Large manufacturing centers, already overcrowded and with streets congested, had to accommodate substantial increases in working population. In many instances, great industrial plants were constructed in or near moderate and small-sized communities. Moreover, industrial expansion was not the sole contributor to defense transport problems. Almost all other lines of business—retail, wholesale, mercantile, and the like—experienced large increases in activity.

The result: transport and traffic problems in most communities reached new highs; congestion was multiplied; traffic accidents increased; valuable man power was lost; while irretrievable man-hours and vehicle-hours of production were dissipated.

Many new workers could not obtain adequate housing near their work while others could not dispose of their former homes. Travel over long distances, sometimes 50 miles or more, became a necessity for millions of workers, a large portion of whom relied upon private automobiles. This private vehicle transport created serious problems of routing to and from industrial areas, traffic tending to concentrate on main arterial streets or being bottled by newly created cross-channel movements. Parking facilities in the areas were taxed, oftentimes far beyond capacity. Other traffic attempting to move through these areas was blocked, especially when shifts were changing. Varying hours of employment occasionally unloaded heavy traffic onto the streets just in time to conflict en route with other heavy flows of traffic.

Mass transportation absorbed a tremendous increase in travel—over 50 per cent in many instances—but frequently the locations of new plants were selected without any consideration of mass-transportation facilities, and serious practical problems of serving them resulted. The increased transit load came largely during the already seriously strained peak of carrying capacity. Additional equipment could not be obtained overnight because of material shortages. The heavy defense labor demand made it extremely difficult to obtain competent operating personnel. Also, with the shifting of employment location the demand arose for both short and long distance cross-channel transportation to a multiplicity of decentralized local areas, creating problems of new routes and shifting routes, oftentimes over streets inadequate in traffic capacity.

Increased subcontracting of defense work entailing haulage of parts and sub-assemblies between factories, often several hundred miles apart and timed to meet on-the-minute assembly line requirements, contribute to this greater trucking volume on the city streets in many localities. Restricted intercoastal and coastwise water traffic, limited oil pipeline capacity, and a shortage of freight cars combine with an increased tonnage of available freight to create further expansions in truck haulage, both local and long distance. This has thrown a burden not alone on the highway systems between centers and sources of supply, but also on the streets of municipalities.

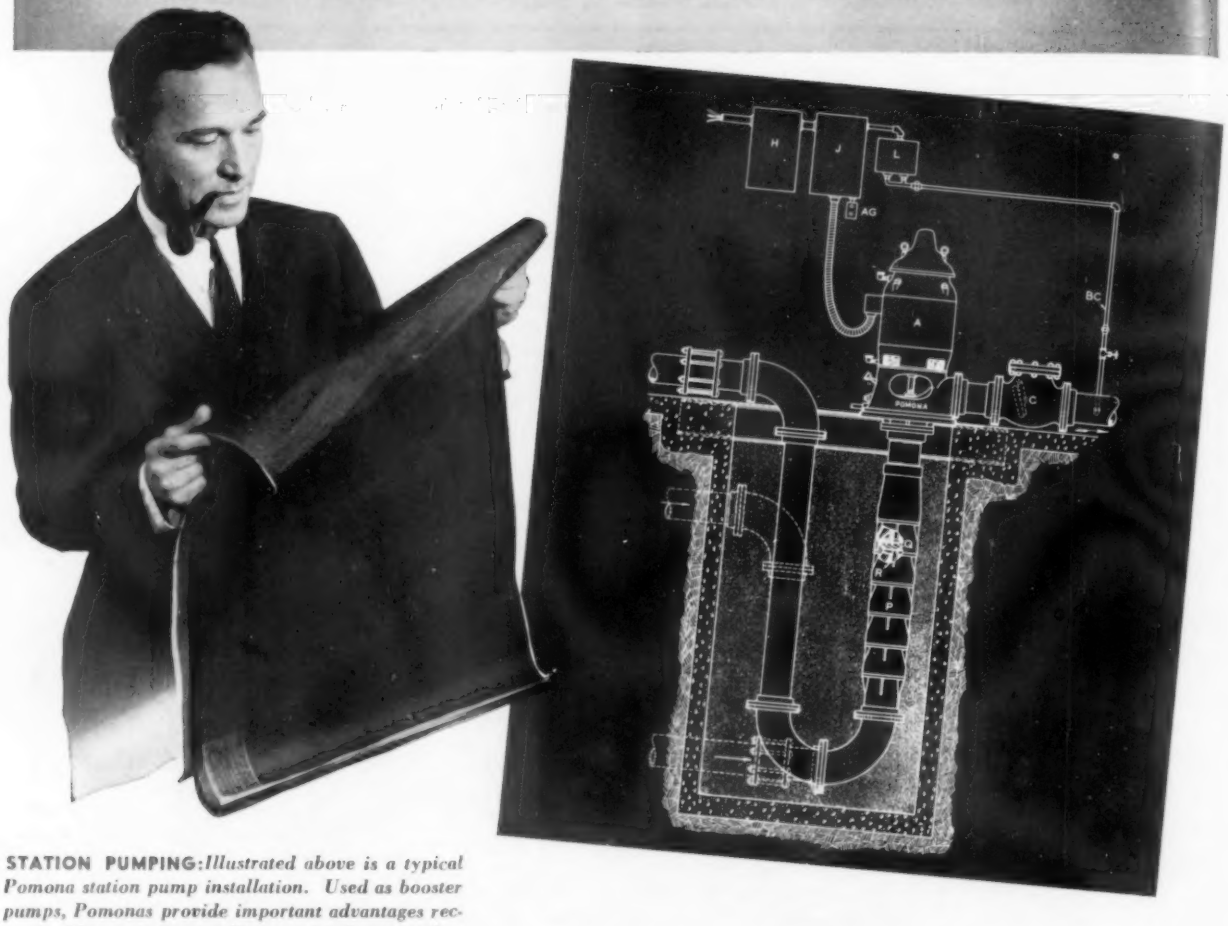
War Transport—1942-43

Shifting from a defense economy to a war economy will neither eliminate nor appreciably alleviate these problems.

Rationing of tires, cessation of new passenger automobile manufacture, restriction in oil and gasoline usage, and requirement of priorities for replacement of parts and materials will result in the curtailment of substantial mileage heretofore indulged in. However, there is a limit to which this curtailment may be carried without adversely affecting war effort and, moreover, at least some of the civilian curtailment will be counterbalanced by increased military and war production traffic, including added mass-transportation service. Unquestionably, total vehicular mileage will decrease, but street traffic will continue to be critical in war-production areas.

In 1940, private automobiles accounted for 498 billion passenger miles or 86 per cent of the total for all forms of conveyance; six times as many passenger miles as buses, electric railways, steam railroads, and airlines combined. Of this passenger mileage provided by private automobiles, 54.7 per

THIS IS NO TIME TO WASTE POWER ...NO TIME FOR PLANT SHUTDOWNS



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cent, or 274 billion passenger miles, was the result of "necessity usage" according to surveys made for The Automobile Manufacturers Association: 11,250,000 round trips or 75 per cent of the 15 billion total were classed as "necessity usage."

Half or nearly half of the 498 billion passenger miles by private automobile in 1940 probably will remain as wartime necessity use. And, to complicate traffic movement, this use will be concentrated increasingly in military and in production areas, there to increase rather than diminish present problems.

Current estimates indicate that the 26,400,000 passenger cars now in use have an average age of 5 years. With reasonable care and driving these cars could average another five years of useful life. There is a backlog of another 650,000 to 700,000 new cars undelivered or in January production, and 500,000 unsold used cars in dealers' hands. The tires on these cars will give an average of nearly a year and a half more service, according to some estimates, and with retreading, this useful life could be extended by several years. Thus, even under war economy, there must be a very substantial amount of necessity traffic with private passenger vehicles.

Improving Production Transport

In an effort to assist public officials to solve many current traffic problems, and thereby increase the efficiency and safety of traffic movement, the Institute of Traffic Engineers unanimously adopted "A Plan for the Immediate Improvement of War Production Transport," recommending these three basic steps:

1. Plan routes for war production workers and trucks
2. Reduce peak-hour congestion through staggering employment hours in defense areas
3. Eliminate traffic bottlenecks

With war transport concentrating vehicular traffic on main arterials, planning of routes becomes a necessity. This includes the establishment of preferential routes for employees, trucks and mass transportation; setting up bypass routes around congested areas by relocating numbered routes and providing alternate routes; intelligent use of through (stop) streets and one-way streets; and resurfacing and repairing streets so as to make them attractive and practical for use as war-production routes.

Peak-hour congestion must be relieved by carefully planned staggering of working hours. Where necessary, civilian traffic must be encouraged to avoid travel during rush hours.

Critical points in the street system are all too frequently the scenes of heavy congestion and disrupting accidents. These bottleneck conditions can be greatly helped in most cases by controlling or restricting curb parking and loading; by channelization, i.e. lane marking, use of islands or intersection redesign; and by modernization of traffic control with signals, signs, street markings, and the lighting of the city streets.

The ITE plan calls for relatively simple treatment of specific difficulties brought about by our war economy. To assist public officials in carrying out this plan, a special committee of the Institute is developing a working manual covering all three major steps. In addition, all features of the plan will be covered for municipal action in subsequent articles to appear in THE AMERICAN CITY.

New Signals Pass Traffic Faster Than Philadelphia Subway

By ROBERT A. MITCHELL
Traffic Engineer of Philadelphia

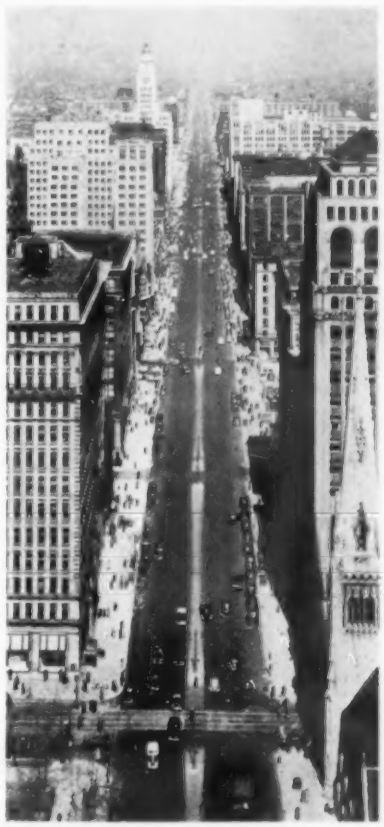
IN selecting the traffic-signal system for Philadelphia's North Broad Street from City Hall to Roosevelt Boulevard, a distance of over four miles, consideration had to be given to the volume of vehicular and pedestrian cross-traffic and to block lengths, varying from under 400 to over 800 feet. There was also a predominant movement of vehicular traffic on Broad Stree in one direction during several periods of the day, with a roadway width of about 70 feet for pedestrians to cross.

The volume of traffic on Broad Street from 7:00 A.M. to 7:00 P.M. averaged around 22,000 vehicles in both directions, with the intersecting traffic at some streets heavier per lane but at others only 20 per cent of the Broad Street traffic. Pedestrian volume crossing the street varied at intersections from 6,000 persons to 46,000 persons during the same twelve hours.

Two other factors also influenced the choice of the system to be used. First, studies and experience showed that pedestrians would not wait on the curb very long, but would cross between moving vehicles. Second, the vehicular traffic on many of the cross streets was so heavy that it could not be stopped for a very long period of time or it would back up over the streets paralleling Broad Street, which would delay the movement of traffic on these already crowded streets.

What System?

Three types of systems were considered, the alternate, the simultaneous, and the flexible progressive. The alternate system, in which the signal indications are "green" and "red" at adjacent intersections at the same time, is effective only where blocks are about the same length; therefore, this system was discarded. The simultaneous system is one in which all the signals show "green" or "red" at the same time. This was discarded for a number of reasons, the main ones being: (1) at least 90 seconds of "green" would have to be given to allow Broad Street traffic to move any appreciable distance, and cross-traffic could not be



Flexible progressive signals speed up traffic on North Broad Street, shown here from City Hall, Philadelphia, Pa.

DUAL AUTOMATIC METERS AID NATIONAL DEFENSE

★ ★ ★ ★ ★ ★

IT MAY NOT have occurred to you, but Dual Automatic Meters are doing their part in National Defense. For instance, they bring about a faster movement of traffic because they reduce congestion. They cut down fire hazards because the proper spacing of cars makes buildings more accessible in case of fire. Then, too, they help hold down the ad valorem tax burden with their penny and nickel service fees.

In Toledo, Ohio, as an illustration, the transportation system's running time was reduced nearly 10%, thanks to the operation of parking meters. In Pontiac, Michigan, winner of 1939's Safety Prize in cities of her class, they have reported an 81.8% decrease in traffic accidents due to metered parking.

In other words, Dual Automatic Meters not only aid your city in solving its parking traffic problem—they also aid greatly in National Defense.

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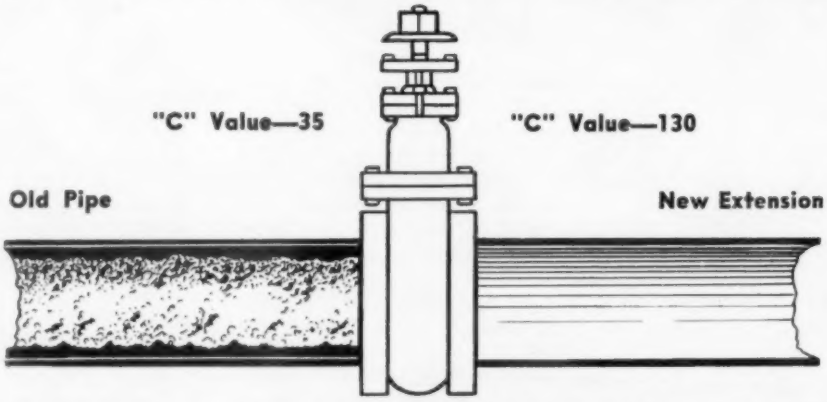

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held up this long: (2) peak traffic movements could not be given any special treatment; (3) the time was too long to expect pedestrians to wait on the curb; and (4) it has been pretty well established that the overall speed would be fairly low, yet the speed at certain times would be so fast that accidents might occur.

Flexible Progressive

The flexible progressive system was selected as fulfilling the most requirements. In this system, the signals at each intersection are controlled by a General Electric "timer," which allows the signals to be timed to accommodate the traffic at that intersection. In addition, all the timers are connected by cable to the master control board, where they can be automatically kept in step or made to change their relationship, according to a predetermined schedule. The signals at each intersection go through a "cycle"

Traffic Engineer R. A. Mitchell (right) and Traffic Signal Engineer John F. Gallagher inspecting one of the General Electric controllers in the Broad Street progressive system

once every 50 seconds; the minimum time allowed for cross-traffic is 16 seconds, the maximum 25 seconds. The minimum was determined by the time required for pedestrians to cross Broad Street. Thus, cross-traffic is never held up long enough to interfere with traffic on the adjoining streets, and pedestrians tend to wait at the curb for the green light. In addition, the signals at each intersection are so coordinated that vehicular traffic on Broad Street moves progressively from one intersection through the other.

Due to the "flexibility" of the signal timers, it is possible to change their leads automatically so that southbound morning traffic—70 per cent of the total volume—moves as it would on a one-way street, at an average speed of 28 miles per hour. In the afternoon, the system favors northbound traffic. During the remainder of the 24 hours, the average speed in both directions is 23 miles per hour. Only about 65 per cent of each "wave" can progress through the entire system, the other cars stopping at, say, three out of the 43 signalized intersections. It is also possible from the master control board to increase or decrease the length of cycle so as to control the speed on Broad Street, and to put the lights on flashing amber and red.

Occasionally motorists complain that the Broad Street signals are not satisfactory, and sometimes they send letters to newspaper editors. In all such cases, reporters from these newspapers have made test runs on the street and reported very satisfactory results. It usually turns out that these motorists have been traveling in the opposite direction from the predominant movement, during peak periods, when the signals are not in their favor.

The system has been doing a very good job, not only in moving traffic with a higher overall speed than the subway which runs under Broad Street, but also in reducing fatalities from an average of 23 per year to six.

Parking Meters Speed Traffic

PARKING METERS ARE NOW OPERATING IN ALMOST 300 CITIES. No such progress as this, from zero, could have been made in a matter of seven years had the parking meter not justified its name. As *The Municipal Index* says: "Parking Meters Do Comb Out the Curb Tangle." Because they do, they have become an essential municipal public safety device. Not only safety and convenience are served, but public economy as well, for parking meters reduce expensive police supervision.

They have another virtue also. Parking congestion has always been an obstacle to smooth traffic flow. By making parking an orderly and routine operation, meters produce a freer and swifter flow of moving vehicles. Could the actuality of such a speed-up be established?

THE AMERICAN CITY felt that some competent evidence on this point would be important not only to local traffic authorities and businessmen, but to Federal Government production officials as well. For traffic these days consists increasingly of war vehicles. What speeds them speeds Vivtory.

Consequently, principal executives of transit, bus, and taxicab companies in a random sampling of cities operating parking meters were invited to answer a series of questions as to reduced congestion, gasoline saving, better results with same public-carrier vehicles or with fewer vehicles to do the same work, safer operation, and speeding up of war traffic. These companies operate many vehicles and keep a complete record of costs and other factors which benefit or retard their business of public transportation. The Jolly Cab Co. of Memphis reports a 50 per cent speed-up in traffic flow since parking meters were installed.

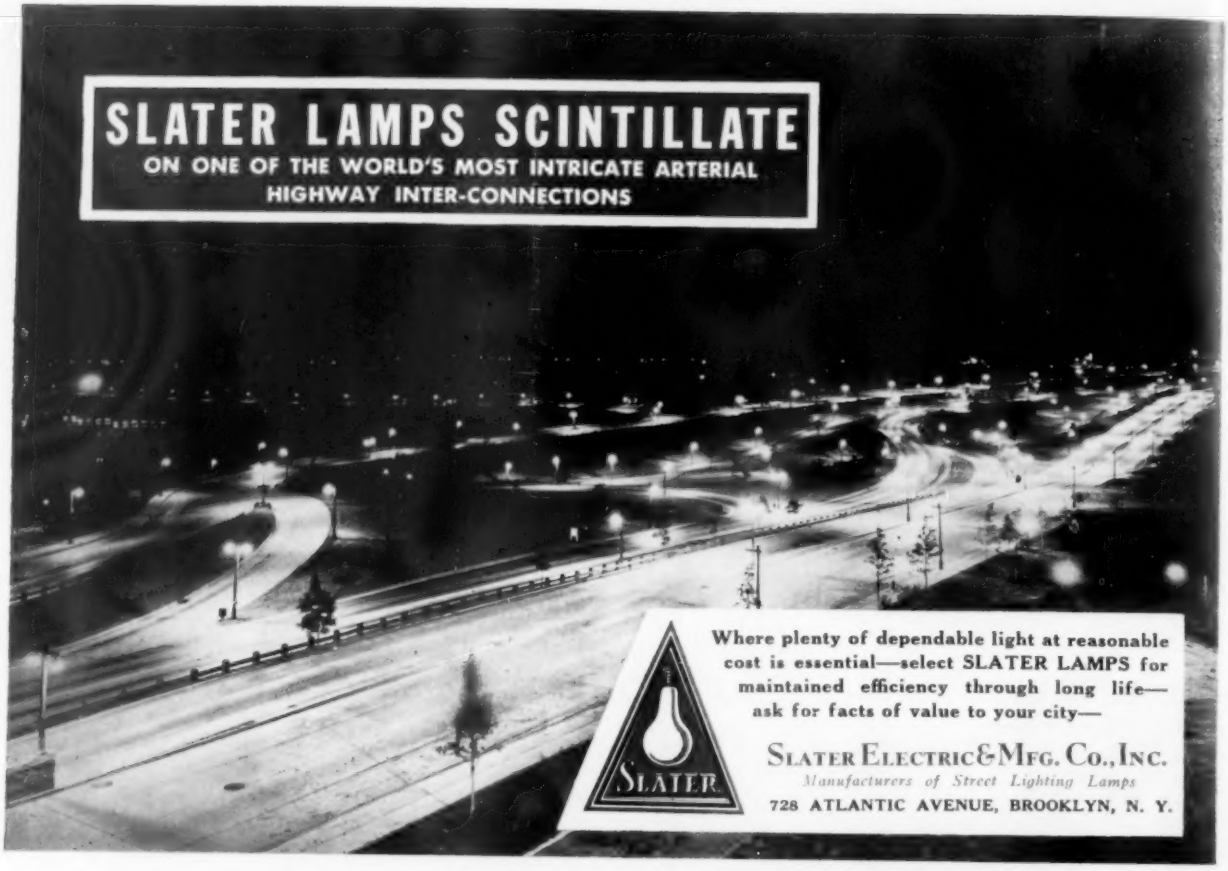
This is truly a surprising statement. The Yellow Taxicab & Transfer Co. of Tampa puts the figure at 40 per cent for Tampa and records a saving of 10 per cent in gasoline, with "considerably" safer operation. The City Cab Co. of Akron and the Blue & White Liberty Cab Co. of Minneapolis report speedier movement with meters.

Transit-company experience agrees with the above. Twin City Rapid Transit Co., Minneapolis, says: "Parking meters noticeably reduced congestion in the loop area of this city; schedules were better maintained and street-cars and buses loaded more evenly." Cambridge & Southern Transit Co. of Cambridge, Ohio, and Tulsa City Lines, Inc., Tulsa, report an increase in traffic flow amounting to 25 per cent; the Batavia, N. Y., Coach Co., 10 per cent; Oklahoma Railway Co., 5 per cent. Companies in Lynchburg, Va., San Diego, Fort Worth, Duluth, and Cleveland all report faster traffic flow.

The agreement is almost unanimous that parking meters aid public operations generally, make these operations safer, and would speed traffic under emergency conditions.

Parking Lot Ordinance

GREATER PROTECTION for car-owners and increased safety for pedestrians are objectives of a new municipal ordinance in Philadelphia regulating private parking lots. The ordinance is an example of the step an increasing number of cities (such as Detroit, Flint, Toledo and Washington, D. C.) are taking to control the parking-lot business, says the International City Managers' Association.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Outdoor Lighting

Streets—Highways—Floodlighting

400 Million Man Hours Lost in 1940

Street Lighting in Wartime a Public Responsibility

By L. A. S. Wood
Chief Lighting Engineer, Westinghouse Electric Manufacturing Co.

PUBLIC officials are seriously concerned about street lighting in our wartime economy. Some are wondering whether improvements and extensions should not be deferred for the duration to conserve strategic and essential materials. Others are considering the advisability of curtailing street lighting to conserve electric power.

Adequate street lighting is essential to our wartime economy in locations where it will promote the productive and fighting capacity of the country and provide for the safety of those engaged in the production of necessary material. This is particularly true in the lighting of thoroughfares and streets essential to wartime transportation, such as roads leading to plants, encampments, and other concentration points where there are hazards to life and property. Curtailment of street lighting is fraught with danger and should be definitely discouraged.

At this time a great deal of attention is being directed to the protection of workers in industrial plants, but the man hours lost because of accidents in industrial plants, serious as they are, are small in comparison with the man hours lost by workers involved in traffic accidents when off the job. Few public officials realize the magnitude and significance of these losses and fewer still have given consideration to measures which will conserve this lost man power so vital to our wartime production.

More than half the personal injuries resulting from traffic accidents, and over 60 per cent of the fatalities, occur during the hours of darkness. This means that in 1940, more than 400,000,000 man hours were lost due to *night traffic accidents* — three and one-half times the losses due to accidents in industrial plants.

During 1941, largely because of defense activities, the traffic-accident rate increased, and unless drastic action is taken in this emergency it is believed that traffic accidents will reach an all-time peak in 1942.

Night, as well as day, traffic is increasing because of the tremendous and vital interest in wartime production, and adequate street lighting is essential for prompt and safe transportation. The situation is aggravated by an increase in the practice of subcontracting for necessary items of manufacture, thereby converting many large plants primarily into assembly centers. Thoroughfares, streets, and highways leading to these plants are becoming integral features of the assembly line, and stagnation of traffic under these conditions might well result in calamity.

The conservation of man hours lost in night traffic accidents can be a valuable contribution to our wartime effort, and public officials have a direct responsibility in regard to street-lighting improvements in locations essential to wartime production and transportation.

When peace comes, the value of these improvements, adopted as wartime measures, will not be lost, and they will remain shining examples of the advantages of adequate street lighting in the prevention of night traffic accidents.

Dark Streets Breed Crime

Baysiders Cite Molesting of Women

By THOMAS FINNEGAN

Stirred by the latest robbery attempts on women pedestrians in the Bayside area, members of the Clearview Civic Association are going to renew their demands for more street lights in the new sections of Bayside and Bayside West.

The two new cases, which occurred Tuesday night at 201st street and 42nd avenue and 40th avenue near 215th street, resulted in the loss of one woman's pocketbook. The second woman managed to scare off her assailant by screaming.

Reports of the night maraudings focused new attention on the association's efforts to obtain street lights, especially in Bayside West where many new developments have sprung up, but the Department of Gas, Electricity and Water Supply has been unable to catch up with the community's growth.

At a recent meeting members pointed out to Dominick Mandaglio, president, that women were afraid to leave buses alone at night because of the absence of street lights. They also remarked that residents on 206th street between 32nd and 33rd avenues had to leave their front-door lights on all night as a safety precaution because of the lack of street lights.

These complaints prompted the association to file demands for the lighting equipment but no action has been reported. Now, in view of the new attacks directed at women, the civic group will make a new appeal.

"We realize that most metal is being diverted to the government's use because of the war," said the president, "but we believe it is necessary that lights be erected near homes for the protection of women.

"Of course the lights could be doused in time of blackouts, since most people will be in their homes, but at other times it is important that proper lighting be provided to discourage street robberies."

North Shore Journal

Your Country and His Family

NEED THIS MAN

★ This man is one of thousands of skilled laborers who are working the "night trick" in America's wartime industries. Should he be killed or disabled, it would be a double loss because your country would be deprived of his badly needed services and his family would be denied the security and happiness which he alone can provide.

That's why the safety lighting of streets leading to and surrounding industrial areas will be so essential in 1942. Over 60% of all traffic fatalities in normal years have occurred after sundown. With the tremendous increase in night traffic, due to the nation's "around the clock" production schedule, it is essential that every city's lighting measures up to the emergency.

Union Metal steel standards are an important factor in any safety lighting program. Their modern design provides proper mounting height for efficient illumination. Sturdy construction from top to base assures a permanent installation requiring a minimum of maintenance. Union Metal engineers are ready to aid you in bringing your lighting up to 1942 defense standards. Write for complete information.

THE UNION METAL MANUFACTURING CO.

Canton, Ohio

Houston Is Installing 3,500 New Street Lights

By C. A. Pickett
Mayor, Houston, Texas

AS THE result of the determined efforts of Houston's present administration to improve and expand street lighting, an agreement was recently entered into between the city and the Houston Lighting & Power Company which will result in transforming our city within the next few years into one of the best lighted urban centers in the nation.

Street lighting in our business district has kept pace with the rapid growth of the city and is believed to be adequate at this time. This lighting is provided by upright ornamental luminaires mounted two on a standard and spaced about 100 feet apart on both sides of the streets.

Surveys, however, have revealed the need for additional and improved lighting facilities on the main traffic arteries outside the business area. For example, 24 of the 39 night deaths in Houston in 1940 happened at locations where there was no lighting at all. It is estimated that, though only 40 cents per capita is being spent for street lighting, the expense for property accidents that occur at night is about twelve dollars per capita.

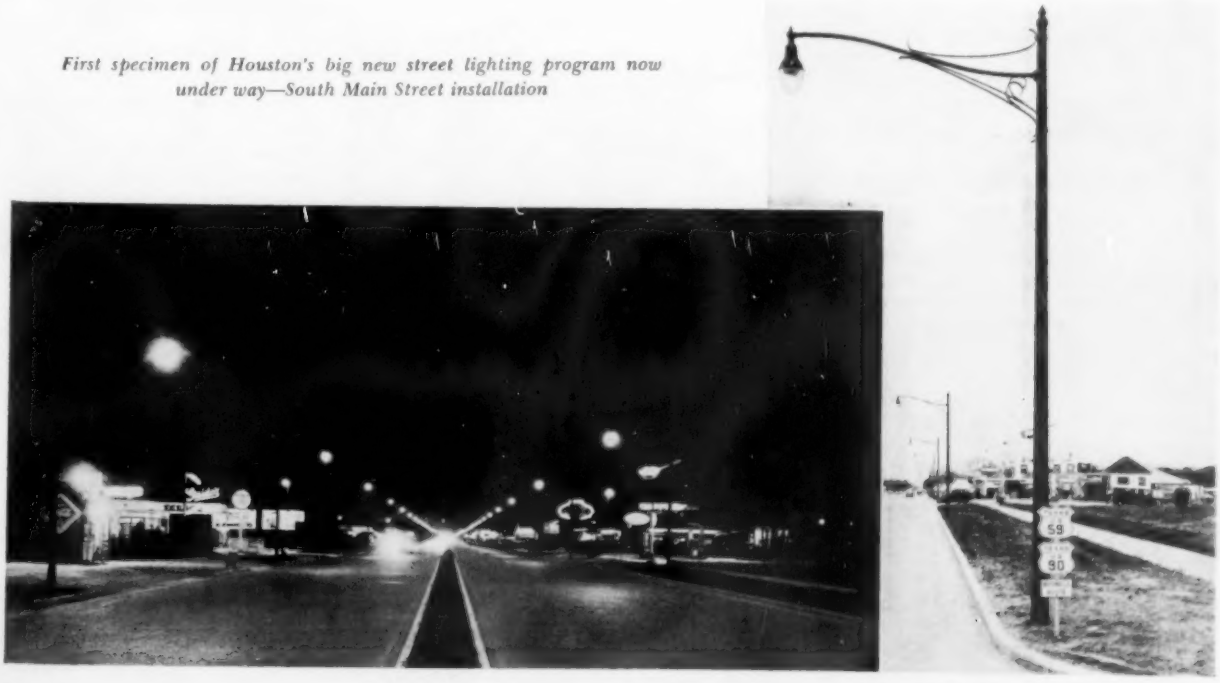
Under the terms of the agreement, the company will install and maintain 3,500 additional street lights for the city, increasing the units of our street-lighting system from 4,255 to 7,775.

The program, which is now well under way, calls for the installation of 1,000 lights as quickly as allocations can be made, and of 500 lights each year thereafter until the 3,500 total is reached.

The recently completed mile of lighting on heavily traveled South Main Street was a revelation to Houston motorists. As a result of this improvement it is considered that there is a better public appreciation of the need for proper and adequate night illumination on the main traffic routes outside the business district. The safer night driving conditions which the new lighting promotes and the spirit of progressiveness which is thereby reflected upon the city have gone far toward furthering improvements in the lighting of our city.

South Main Street is a 72-foot thoroughfare divided by a center mall which separates opposing lanes of traffic in accordance with the best modern practice. The new luminaires are the modern pendent type developed by General Electric engineers. They direct the illumination downward over the pavement surface. Lamps of the 10,000-lumen size are used. A high pavement brightness is created by installing these lights on 10-foot Union Metal bracket arms atop metal standards, the standards spaced about 100 feet apart in a staggered arrangement. In terms of the lighting engineer, the pavement brightness is 0.8 footcandles, or about 32 times the pavement lighting produced by a full moon.

The new lighting system on South Main Street points the way toward improved traffic-artery lighting for other Houston streets. Armed with the surveys mentioned above, which establish the need for this lighting, Houston is definitely on the road to greater night safety as well as to the possession of an important municipal improvement that will adequately and attractively perform an essential public service.



First specimen of Houston's big new street lighting program now under way—South Main Street installation

SIMPLE—*Efficient*—RUGGED!

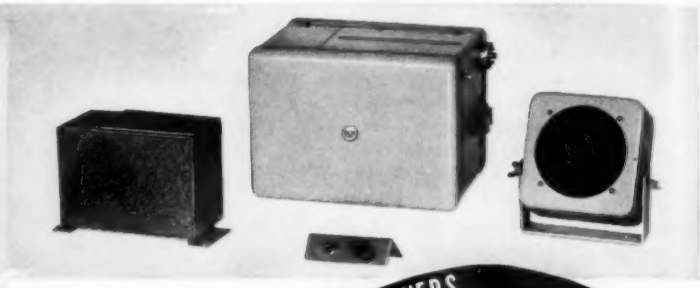
RCA F-M POLICE RADIO EQUIPMENT

RCA HEADQUARTERS F-M TRANSMITTER
Type MI-7836

- ★ *Reactance Tube Modulation—only RCA has it*
- ★ *High Stability*
- ★ *30 Watts Output*
- ★ *Single-Unit Construction*
- ★ *Simple Installation*
- ★ *Low Maintenance—Long Life*

Utilizing a total of only *seven* tubes, for low maintenance costs, simplicity of adjustment and ease of operation, the RCA Type MI-7836 performs efficiently and reliably with no "trick circuits" or doubtful circuit components. Rigid tests have proved its ability to operate under the toughest conditions, on 24-hour duty.

Transmitter weighs only 30 lbs., measures only 16¾" x 8" x 9¼". Frequency range is 30 to 40 megacycles, with a maximum carrier-swing (100% modulation) of 15 kc. Audio characteristic rises 15 db. from 300 to 3,000 cycles, with sharp cutoff above 3,000—giving crisp, clear, intelligible speech.



RCA F-M RECEIVERS
Types MI-7832 and 7833

- ★ *New, Efficient Squelch Circuit*
- ★ *Efficient Amplitude-Limiter Circuit*
- ★ *2½-Watt Audio Output*
- ★ *Crystal Controlled First Oscillator*
- ★ *AFC Second Oscillator*
- ★ *Unequaled Adjacent Channel Selectivity*
- ★ *Easy Installation and Servicing*

Ideally matched to the RCA Type MI-7835 and MI-7836 Transmitters, these receivers afford efficient, noise-free reception . . . Twelve tubes are used in a *double* superheterodyne circuit that gives clear reception with even the weakest usable signals. Exceptional selectivity provides the freedom from adjacent channel interference so important today with the widespread use of all available frequencies. Frequency Control maintains "on the nose" tuning for all received signals.

RCA MOBILE F-M TRANSMITTER
Type MI-7835

Here are all the basic features of the MI-7836, in a mobile transmitter operated by a Dynamotor power-supply. Only *six* tubes are used—and all are readily-obtainable types. All controls necessary to operate the transmitter are grouped on a compact panel easily mounted on the dashboard of the car.

FOR A-M EQUIPMENT, TOO LOOK *FIRST* TO RCA!

RCA manufactures a complete line of police radio transmitters and receivers of A-M as well as F-M types. Whatever your needs—consult "Radio Headquarters" *first*. For RCA's wide background and experience in police radio communications can save you time, trouble and money.

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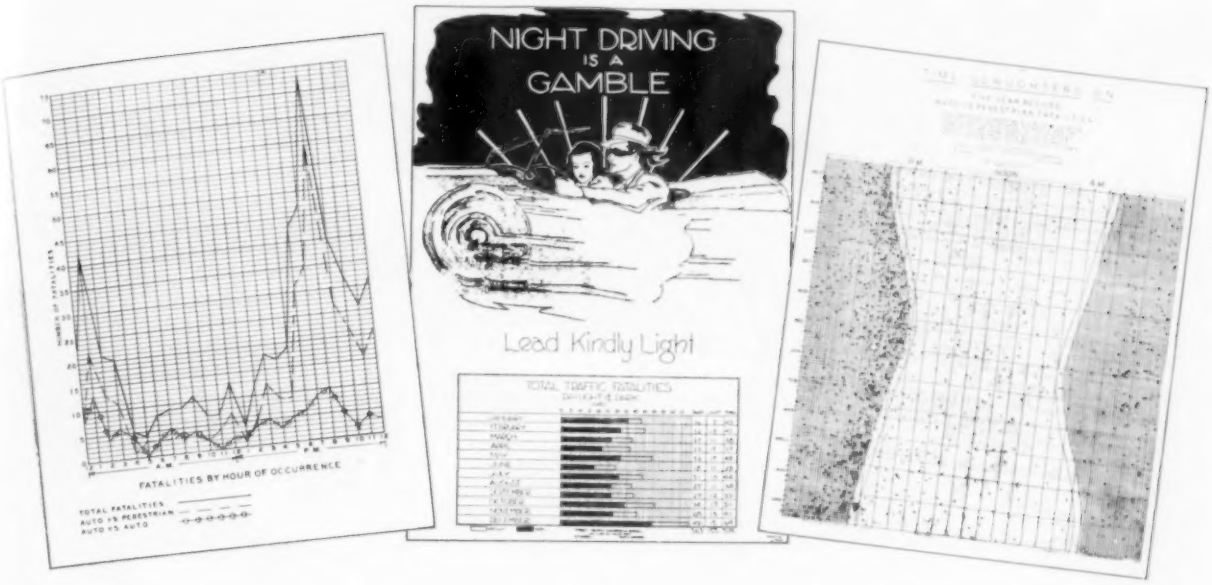


Darkness Dangers Stressed by City Traffic Report

IN THE CITY OF LOS ANGELES, CALIF., 68 per cent of the traffic fatalities take place at night, and 32 per cent happen in the daylight hours. This means that in 1940, for instance, 363 persons met death on the streets at night, 155 during the day. The hours of darkness are from one-half hour after sunset to one-half hour before sunrise.

The hazards of inadequate street lighting are heavily stressed by R. T. Dorsey, Traffic Engineer, Los Angeles Police Department, in his 1940 Traffic Fatality Analysis. Four of the graphic pages of this quickly-grasped study are presented here. At the left of the group of three charts are shown the fatalities by hour of ocurrence. For both driver fatalities and pedestrian fatalities, the peaks are 8 P. M. and 1 A. M. The table in the middle page classifies the fatalities by months. December was tops in 1940, with 49 deaths at night and 15 by day. June was the safest month, with 18 night and 11 day fatalities. The right-hand chart is a five-year record of auto-vs.-pedestrian fatalities by time of day. The ability to draw these charts proves a close watchfulness of night hazards and their antidote. All cities would gain safety and prestige by keeping detailed records of night accidents.

Electric Eye Copies Street Lights

THE "ELECTRIC EYE" has just taken on a wartime job, that of standing by as all-night guard for alert warnings of possible air raids. Focused on the street lights, which will be turned off when a warning is received in any city, the electric eye sounds an immediate warning and likewise turns off the lights in the home, store, display signs, or wherever lights are to be extinguished to perfect a city blackout.

The idea originated with Andrew Tessier, who with his brother conducts a small machine shop in Schenectady, N. Y., and is engaged in wartime defense orders. When war was declared, orders were issued to all people, including business houses, that lights must be extinguished within five minutes after an air-raid warning. Tessier installed a photo tube or electric eye at the window on the second floor of his shop, with the eye pointed toward the street light on the corner, and adjusted it so that whenever the street light went out, all lights in his place would go out. When the street lights came back on again, on would go his all-night lights which discourage burglary.

The electric eye equipment, secured from the General Electric Co., cost about $30. It cost him $10 more to install it, so for an expense of less than $50, Mr. Tessier has an all-night guard on the lighting of his plant for the duration of the war, as against $20 or $25 per week he would have to pay a watchman to perform the same duty. This device could be used by merchants who, since the war, have been turning out their lights when they close their places of business at night, thus sacrificing advertising.

Mr. Tessier with the GE phototube equipment which permits the street lights to control the lights in his shop in Schenectady, N. Y.

Light War-Traffic Streets

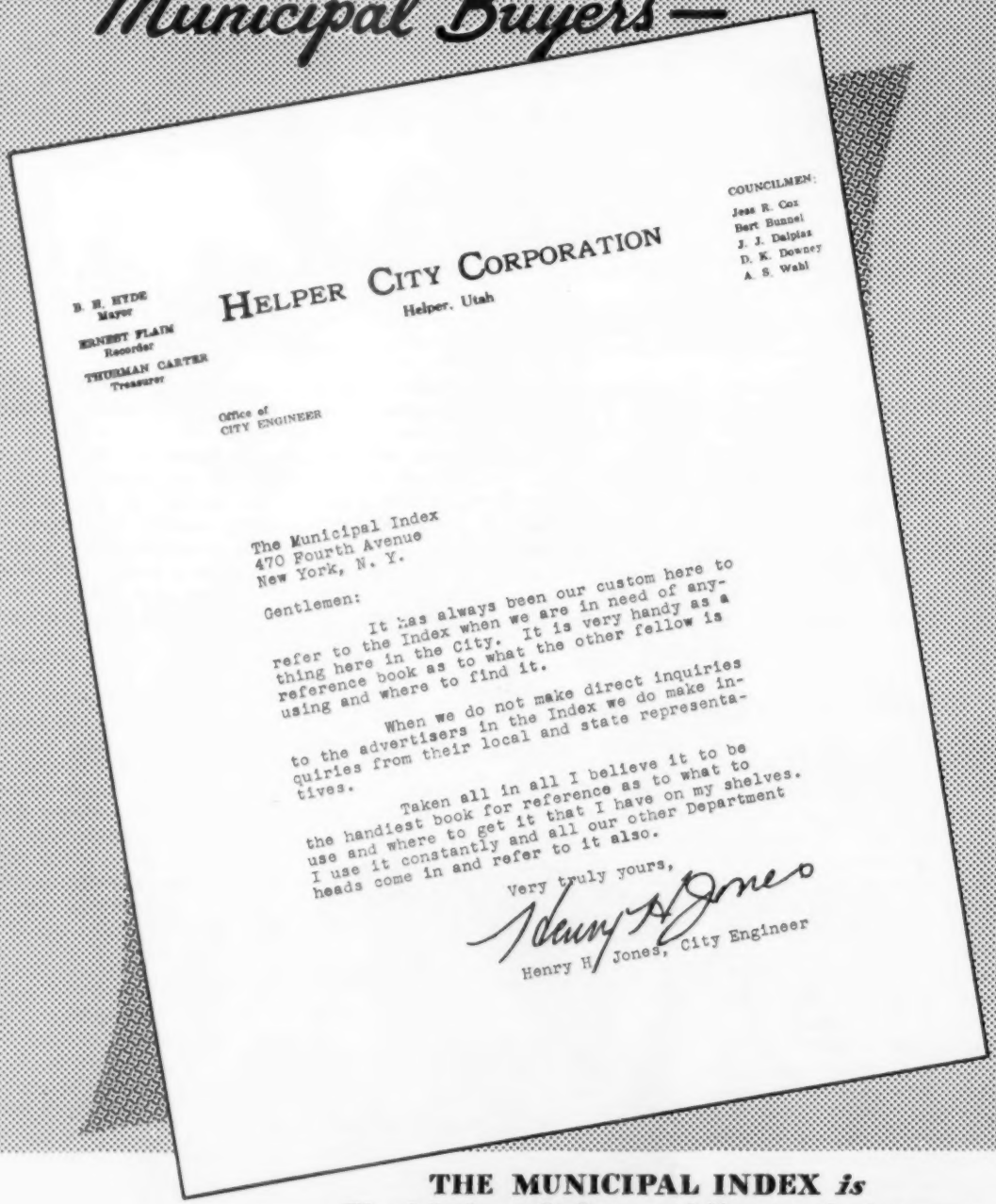
The Illuminating Engineering Society recommends:

"That during this emergency, street and highway lighting be especially applied where it will promote the productive and fighting capacity of the country and provide for the safety of those engaged in the production and transportation of necessary material.

"Particular attention should be directed to the lighting of streets and roads essential to transportation and the roads servicing plants, encampments, and other concentration points where there are hazards to life and property."

"the Municipal Index is a big aid in the making of purchases"

SAY *Municipal Buyers*—



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Office of
CITY ENGINEER

The Municipal Index
470 Fourth Avenue
New York, N. Y.

Gentlemen:

It has always been our custom here to refer to the Index when we are in need of anything here in the City. It is very handy as a reference book as to what the other fellow is using and where to find it.

When we do not make direct inquiries to the advertisers in the Index we do make inquiries from their local and state representatives.

Taken all in all I believe it to be the handiest book for reference as to what to use and where to get it that I have on my shelves. I use it constantly and all our other Department heads come in and refer to it also.

Very truly yours,

Henry H. Jones

Henry H. Jones, City Engineer

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The Modern Reference Library that covers the $500,000,000 worth of products which city governments purchase.

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Fire Prevention NOW

ALL towns and cities without an up-to-date fire-prevention ordinance have available the entire groundwork in the form of a minimum-requirement ordinance just published by the National Board of Fire Underwriters.

An adequate fire-prevention bureau has always been a distinguishing mark of a progressive fire department.

A number of cities have already adopted the N. B. F. U. ordinance in whole or in parts which fit the city best; it is purposely flexible. Obviously this ordinance will not reduce fire loss of itself. There must be shrewd, energetic, and continuous inspection. The five pages of general provisions mention the Fire Chief 20 times, and point out things for the city council or commission, city attorney, and mayor to do. Certainly there must be a fire-prevention bureau whose first job is to prevent fires by enforcing the tested provisions for the storage and use of explosives and inflammables, installation and maintenance of fire-alarm systems and extinguishers, and determining adequacy of escapes and exits.

In these days of omnipresent war industries, present concern centers on the storage, handling, and use of the numerous chemicals. The entire job of fire prevention, which also means fire inspection and study, is important, because a fire is as likely to start from the unexpected as by way of some time-honored hazard.

To make the municipalities very practically acquainted with the need for a fire-prevention ordinance and the availability of more than the makin's, the forces of the capital stock company fire-insurance business have been called upon to rally every community in the country in a fire-prevention program with the objective of making cities and towns safer and of protecting war and other materials against destruction by fire.

Declaring that fire can be the most deadly enemy of the country's accelerating war production program, W. E. Mallalieu, General Manager of the National Board of Fire Underwriters, and Harold N. Mann, Chairman of the Fire Prevention Committee of the National Association of Insurance Agents, called upon the production forces of the fire-insurance business to spur their communities to adopt suitable fire-prevention ordinances as part of their contribution to the war emergency. The bulletin went to the officers of the 750 state and local associations of insurance agents which are affiliated with the National Association of Insurance Agents. The combined membership of the associations is 16,000 insurance agencies with a total representation of approximately 80,000 individuals who encounter fire hazards in their everyday work.

"Adequate fire prevention ordinances," say Messrs. Mallalieu and Mann, "empower the fire department to discover and cause to be remedied conditions which could readily interfere with production of materials which are absolutely essential to our war efforts. It is to impress this fact upon every community in the country that we have launched this program."

• • • —

Priorities for Municipal Needs

(*Continued from page 5*)

posal, fire protection, police. Those are the four essentials. And transportation, that is the very life of the city.

Mr. Nelson: I agree with that.

Mayor LaGuardia: If we can't get the new radio patrol car, that's the end of that, but if we need a small part or otherwise the car is out of commission, then the procedure should be simplified so that we can get it easily. I agree, but if you could establish the procedure on a formula as to the supplies for these various functions of local government, it would be helpful. I mentioned chlorine the other day. Some cities must have chlorine for water.

Mr. Nelson: Would you do this, Mr. Mayor? I agree 100 per cent with what you say, and we will cooperate with it to the limit. Would you appoint a committee of the mayors to sit down with our people so that we can get out for you a handbook of things we know are going to be scarce and shouldn't be applied for, and what provision will be made for getting the available things quickly, thereby working up a procedure that will save time and avoid red tape. I assure you we shall be glad to do that.

Mayor LaGuardia: You will find, Mr. Nelson, that a great deal of preparatory work has already been done. We have had our purchasing commissioners at work on that. Of course we know how overwhelmed your department is. We will take advantage of your offer right here and now and we will be very happy to work with you as suggested.

• • • —

A Scientist on World Peace

A CHALLENGE to his fellow physicists to apply during peace the rational methods of scientific investigation which are proving so essential to victory in the war, was voiced by Dr. E. U. Condon, associate director of the Westinghouse Research Laboratories, at the recent annual meeting of the American Physical Society, at Princeton University:

"After the enemy's will to conquest has been broken, then our real battle begins. Great areas will have been devastated. Men will be battle-scarred and weary. Spiritual force will be at low ebb. We shall all feel like relaxing. But this we must not do!

"Let us be clear about the fact that there will be no lack of important work to do. Even in America—richest nation in the world—vast millions of our people are today undernourished, improperly housed, and inadequately clothed. Think then of the enormous task that lies ahead in bringing to all mankind simply the material benefits which a small fraction of the people enjoy today.

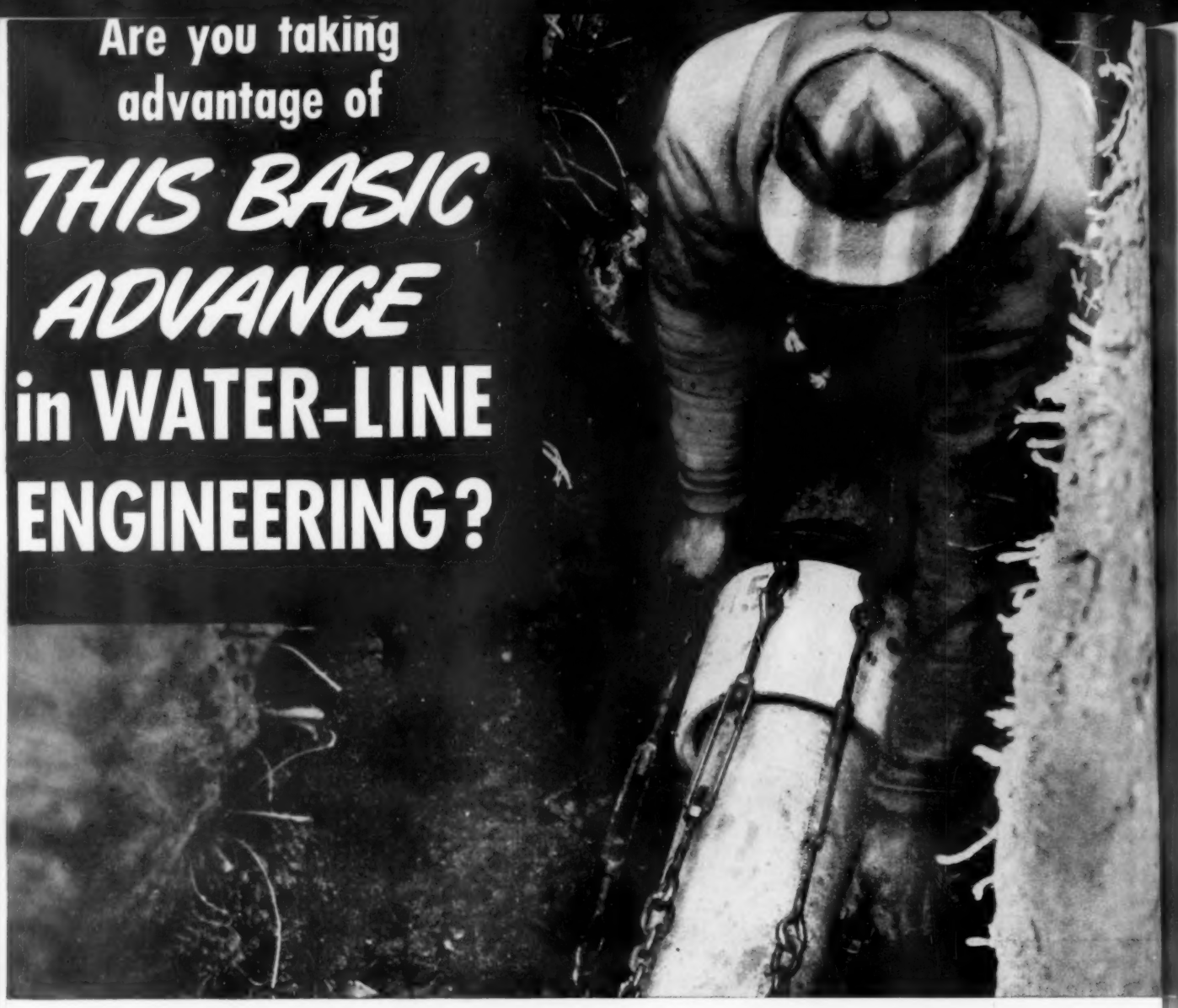
"Let us, therefore, pledge ourselves not to betray the heroes of this war in the peace. Let us make a pledge to continue the struggle for human betterment after the last shell has been fired—and with the same fierce earnestness that men are now displaying in defending their homes against the invaders."

Urging establishment of a "vigorous and flourishing WPRC—World Progress Research Committee"—to guide the reconstruction of all nations, Dr. Condon said:

"As citizens of a democracy we must mold our political organization to the form most suitable for the task ahead. The political solution resides, I am sure, in a close union of the Allies now resisting the aggressors on a basis which provides for the gradual extension to all mankind of the liberal forms of democratic government of our own Constitution.

"We shall learn to apply the rational methods of scientific investigation and experiment to the problems of political and economic management."

Are you taking advantage of *THIS BASIC ADVANCE* in WATER-LINE ENGINEERING?



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"Packaged" joint speeds up assembly. Transite Pipe is assembled with the Simplex Coupling, a prefabricated, "packaged" joint. No heating or caulking equipment is required on the job. In service, joints stay tight, even though assembly is so simple that unskilled crews can finish jobs in the shortest possible time.

Delivery capacity stays high. Transite's exceptionally smooth interior surface offers an initial high-flow coefficient, Williams-Hazen C=140. Because Transite is made of asbestos and cement, it cannot tuberculate. Carrying capacity stays high . . . pumping costs stay low.

Maintenance is negligible. Transite's asbestos-cement composition provides unusual resistance to corrosion . . . immunity to electrolysis.

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For complete information on Transite Water Pipe, send for brochure TR-11A. Johns-Manville, 22 East 40th Street, New York, N. Y.

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Johns-Manville TRANSITE PIPE

AN ASBESTOS PRODUCT

For efficient, economical water and sewer lines

Improving Municipal Administration

Current Items from the Public Administration Clearing House

Cities Face Emergency with Lower Debts and Better Accounting Systems

CITY FINANCE OFFICIALS, facing shortages and substitution of materials, impaired staffs, and rising wage levels for 1942, left behind them a 1941 record of municipal debt reductions and some developments for improved budgeting and planning, a review by the Municipal Finance Officers Association shows.

Purchasing and salary problems will be intensified in 1942, the Association says, with new budget difficulties bound to occur as large appropriations are requested for civilian defense.

As municipal bond prices reached an all-time high last year, many cities—especially those with callable bonds—rearranged their debt structures to take advantage of lower interest rates. The cities were able to find markets for their bonds in 1941 by paying as little as 1.90 per cent interest.

Pennsylvania cities were brought under a new local government borrowing act embodying most of the features considered desirable by municipal bond authorities.

A number of large cities, including Minneapolis, Hartford, and Kansas City, improved or completely overhauled their accounting systems, and smaller cities in Michigan and Wisconsin undertook similar action. Louisville, Ky., Portland, Ore., and Rayne, La., were among cities adopting procedures making for uniform accounting practices throughout the various municipal departments.

New laws improving budget safeguards for local governments were adopted in Massachusetts, Oregon, and Washington in 1941, while in several other states the scope of budgets was widened to include utilities and special funds formerly omitted.

Two states—Washington and New York—passed laws permitting cities to build up cash reserves or "nest eggs" for permanent capital improvements to be made in the future. California and Oregon already had such laws.

Other highlights in municipal finance during 1941:

Scores of cities sought to make their annual financial reports conform to standards set up by the National Committee on Municipal Accounting, and the publication of easy-to-read summary reports for public consumption was extended.

At least 10 states, among them Texas, Illinois, Colorado, and Florida, conducted some kind of in-service training program for municipal finance officers.

New retirement systems for municipal employees were created by Kalamazoo, Mich., Norfolk, Va., and San Jose, Calif. Various proposals were introduced in Congress to extend the scope of the Social Security Act to local government employees, but none of the bills received serious consideration.

Legislation was enacted in Indiana, North Carolina, South Dakota, West Virginia, and several other states giving municipalities a larger share of state-collected revenues.

Abandoned Street-Car Rails Dug up for Defense

SIXTEEN WESTERN PENNSYLVANIA CITIES are doing their share in helping build a two-ocean navy, information to the American Public Works Association shows. Enough steel and iron scrap, in the form of abandoned street-car rails, to produce a dozen destroyers or two cruisers is being dug out of streets in the 16 cities for use by Pittsburgh district steel plants working on defense orders.

The scrap is under salvage in conformity with a suggestion by the Office of Production Management that old rails be used to augment dwindling supplies of scrap for the mills. Rail-removal projects now under way or planned in the 16 cities will recover an estimated 8,800 tons of iron and steel scrap—enough to produce 17,600 tons of open-hearth steel.

The largest project will be undertaken in Pittsburgh, where the Pittsburgh Railway Co. has arranged with the WPA to remove 1,800 tons of track. Beaver County will recover 1,136 tons; Mercer County, 1,055 tons; and Butler County, 744 tons. Altoona already has torn up 750 tons of rails, with removal of more in prospect.

Other communities and the amount to be salvaged are: McKeesport, 764; Armstrong County, 395; Greensburg, 240; Indiana, 207; Latrobe, 125; Versailles Borough, 140; Brackenbridge, 76; Versailles Twp., 70; North Braddock, 70; Harrison Twp., 70; and Carnegie, 70. Johnstown also is preparing to remove a substantial tonnage of track there through the Johnstown Traction Co.

Expense of removing the tracks and of subsequent repaving of streets will run far more than amounts realized through sale of the salvaged rails, the Association says, in pointing out that prior to the defense emergency, with its urgent demands for scrap metals, cities frequently paved over abandoned trackage rather than go to the expense of digging it up.

The 16 salvaging projects when completed are expected to cost more than $200,000 as compared with about $180,000 the scrap rails will bring at top prices. WPA labor will be used in digging out the rails. Scrap obtained will be sold to a broker at a price set by the government, then resold to the mills.

How Airports Affect Adjacent Property Values

CONTRASTING EFFECTS OF AIRPORT DEVELOPMENTS on values of adjacent real estate are brought out in a summary of opinions by assessors in 19 cities made by the National Association of Assessing Officers.

Findings by the Association indicate two general results: First, residential property values seldom show any marked change when airports are located nearby, but such changes as do take place tend slightly downward; and second, values of some business properties usually show a small increase.

The cities queried by the Association were: Atlanta, Baltimore, Boston, Buffalo, Cincinnati, Cleveland, Dallas, Denver, Detroit, Los Angeles, Louisville, Miami, Milwaukee, Minneapolis, Portland, Ore., Saint Louis, Saint Paul, Spokane, and Washington, D. C.

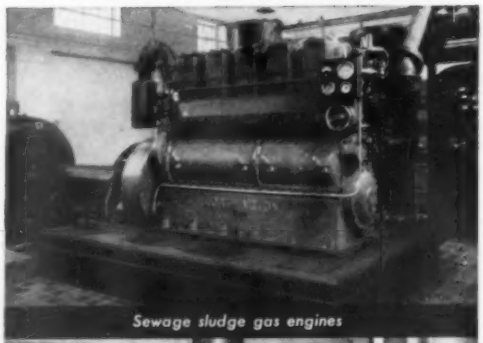
In reporting on how airports influence values of nearby residential properties, ten cities could see no effect one way or the other, seven claimed values decreased and two said they increased.

As for the influence of airports on surrounding business and industrial real estate, nine cities noticed no effect, seven reported such values increased and three said they decreased.

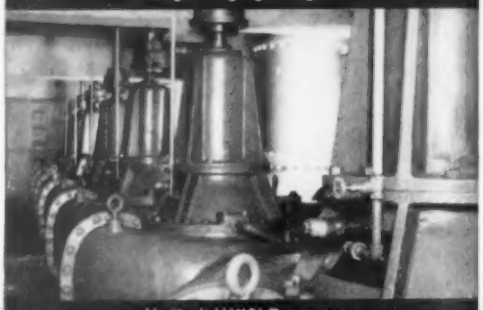
Reasons given by the cities for depreciation in value of residential property were: Noise of takeoffs and landings, especially during sleeping hours; increased dust; and accident hazards.

Business property increased in value, said some cities, because of demands by airport personnel for restaurants and stores, including establishments selling small parts and accessories for planes.

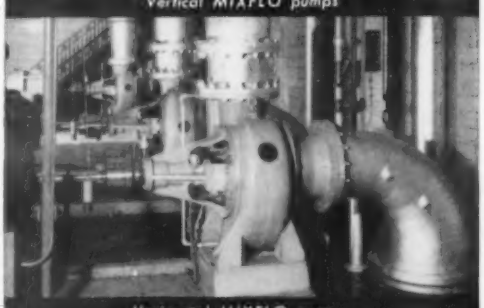
In most of the cities reporting no effect on adjacent property values, the airports were outside the city limits.



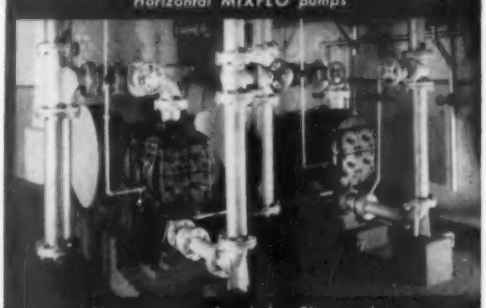
Sewage sludge gas engines



Vertical MIXFLO pumps



Horizontal MIXFLO pumps



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IN THE WAR PRODUCTION PROGRAM

TODAY practically the entire output of Worthington's plants flows either directly into the war production program, for the Army and Navy themselves, or indirectly as essential equipment for the munitions, steel, petroleum, chemical, and many other industries, and for the basic equipment for power and light, water supply and sewage disposal, all vital to the life of our cities and towns and to the many new housing concentrations for men and women engaged in war work.

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WORTHINGTON

Have You an Idle Factory in Your Town?

By FLOYD B. ODLUM
War Production Board

• • • —

NOT since the campaigns waged by city against city, in the days of Ancient Greece, has the role of an individual community been of such vital importance in war.

It is up to us to get more and more factories into the production of weapons—weapons superior to any in the hands of the aggressors. We cannot pit naked men against tanks; we cannot down bombers with bean shooters.

To provide places where manufacturers may see currently needed equipment and parts at any time, some 50 permanent exhibits are being established in cities throughout the United States. Our nearest field office can tell you where they are. In these exhibits, Government purchasing agencies and concerns holding defense contracts break down needed equipment into sub-assemblies. These bits and pieces show smaller manufacturers what they can do. We are calling on you mayors to urge every qualified manufacturer who has not yet gone into war work to visit these exhibit halls in or near your city. Displays will be changed often. When items are placed under contract, they will be replaced by other parts and sub-assemblies that we need to wage this conflict.

Plants Urged to Seek Orders

We are asking that every manufacturer in your area be requested to register at our nearest field office. We badly need accurate information about every plant. If you find plant owners who have not been to our field offices recently, urge them to do so at once. In the last month, our offices have made much progress. Many restrictions concerning contracts have been lifted, and arrangements have been made to aid qualified manufacturers financially. We have representatives in most of the Procurement Offices of the Army, helping the Army to mobilize American industry. That means helping the Army to help your community participate in the War effort.

Above all, please urge your manufacturers to go after war contracts with every ounce of ingenuity and energy they possess. To lick aggression, we must be aggressive.

I know that you can do it—and I know you will.

—From an address before the U. S. Conference of Mayors, January 13, 1942.

Federal Aid to Small Business

Pointing out that small manufacturers throughout the country face a desperate stiuation as a result of the ever increasing curtailment of materials needed for continuation of their business, the above-mentioned conference adopted a resolution urging:

"That immediate action be taken by the proper governmental agencies to insure that small business survive in the present war economy; that in order to accomplish this there be established a centralized authority on supply and procurement, whereby the efforts of local business to obtain war contracts will be channelized through one direct course; that government recognize as vital to war success the enlargement of small business, as big business has been enlarged; and that government aid in this direction not be concentrated exclusively on mass production industry, but that a large measure of financial assistance also be used to preserve small business, an institution which for more than one hundred and fifty years has remained the backbone of our country."

• • • —

City Manager Appointments

John B. Atkinson, a local businessman, was appointed first City Manager of Cambridge, Mass., on January 5.

Robert J. Boyer resigned as Township Commission on January 5 and was appointed Township Manager and Secretary of Mt. Lebanon Township, Pennsylvania. He succeeds A. W. Johns.

U. L. Corona was recently appointed City Manager of Sherrill, N. Y., to succeed V. L. Allen, manager since 1934.

T. G. Hensley was appointed City Manager of Hazard, Ky., on January 5. He succeeds James E. Lane who has been acting manager during the past few months.

A. J. Koenig, former manager of Plymouth, Mich. (1928-31); Fort Atkinson, Wisc. (1931-38); and Wilmette, Ill. (1938-40), took office as City Manager of Jackson, Mich., January 1, succeeding C. P. Ismon who resigned a few weeks ago to return to private business.

J. Ed. McDaniel, one-time manager of Montrose, Colo., has been appointed Acting Manager to fill the vacancy created by the resignation of Harold B. Vasey. Mr. Vasey has accepted a position with the United States Bureau of the Budget.

A. E. Munday was recently appointed City Manager of Brownsville, Texas, to succeed Ben Freudenstein.

Fred Quinnell, formerly city engineer of Roundup, Mont., has been appointed City Manager of Bozeman, Mont., to serve during the continued absence of Major Henderson, former city manager, who is now on active duty with his regiment at Camp Lewis.

W. C. Torrence returned to Waco, Texas, as City Manager following a year's leave in military service.

Guy Webb, Safety Director, has been appointed City Manager of Knoxville, Tenn. Former manager W. W. Mynatt accepted a position with the Office of Production Management.

CLARENCE E. RIDLEY,
Executive Director, International City Managers' Association.

• • • —

The Municipal Bond Market

Recent sales of new issues from the January numbers of *The Bond Buyer:*

Amount	Borrower and Purpose	Rate (%)	Term (Years)	Basis (%)
$100,000	Freeborn Co., Minn., Drainage Refunding	2	1-5 Ser.	1.15
146,000	St. Paul, Minn., Public Welfare	1.50	5.66 Avg.	1.28
205,000	Stamford, Conn., Outfall Sewers, Sewage Treatment Plant and Garbage Incinerator	1.5	10.25 Avg.	1.46
851,000	Onondago Co., N. Y., General	1.5	5.85 Avg.	1.47
125,000	Lackawanna, N. Y., Improvement	1.6	5-5 Avg.	1.53
2,700,000	Minnesota, Rural Credit Deficiency Fund Certificate of Indebtedness	1.60	5/6.66 O.-A.	1.58
250,000	New London, Conn., Water Improvement	1.75	7.85 Avg.	1.62
125,000	Rapid City, S. Dak., Air Improvement	2.25	7.25-10.5 O.-A.	1.93
1,250,000	Hempstead, N. Y., School	2.20	15.85 Avg.	2.18
120,000	Salina, N. Y., Sewer	2.25	14.75 Avg.	2.23
200,000	San Miguel Co., N. Mex., County Court House Construction and Jail	2.5	12.5 Avg.	2.5
4,250,000	Birmingham, Ala., Industrial Water Works Refunding and Improvement	2.75	5/20 O.-A.	2.53
116,000	Marion Co., Fla., 1942 Refunding Road	2.75	10/17 Opt.	3.05
149,000	Calhoun Co., Ga., Funding	3.75	18.33 Avg.	3.75

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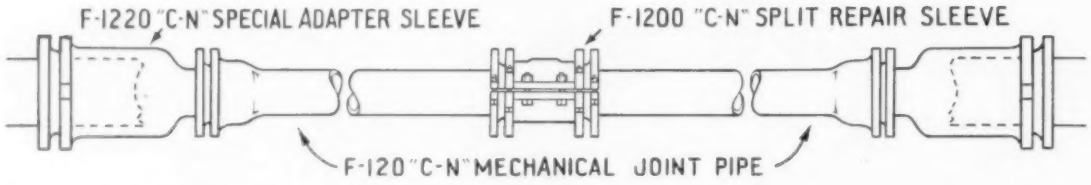

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6 x 6	10 x 10
8 x 6	12 x 12

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F-120 "C-N" PIPE
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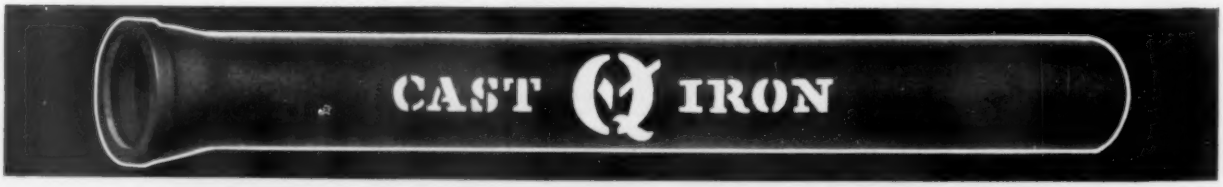


Prepared by
FRANK B. WILLIAMS
Author of "The Law of City Planning and Zoning"

Zoning and Planning Notes

With the cooperation of
EDWARD M. BASSETT
Author of "Zoning" and of "The Master Plan"

Residential Zoning—Piecemeal Regulations

ALABAMA.—*Chapman v. City of Troy*, Supreme Court, June 13, 1941, reported in 4 So. 2d, 1.—A city ordinance laid out a small portion of the city of Troy as a residence district without taking account of other areas equally residential in character, or making regulations with regard to commercial or industrial uses, and without any comprehensive plan, as required by the state enabling act.

The plaintiff is seeking to erect a filling station within this residential district and should be allowed to do so, because, the ordinance, being contrary to the state statute, is void. There may be undeveloped areas in the city limits which should be left as unrestricted districts; but piecemeal ordinances are not favored by the courts.

Zoning Ordinance—Boarding House

NEW YORK.—*Shortell v. Lewis*, Supreme Court, Nassau County, reported in New York Law Journal, November 3, 1941, pages 1356, 1357.—The opinion of the court in this case, in which the facts are stated, is as follows:

The complaint asks for a declaratory judgment that the zoning ordinance of the City of Long Beach, as applied to the plaintiff's property herein, is unreasonable and is a taking of property without just compensation, and therefore unconstitutional, and further seeks "to enjoin and restrain defendants . . . from interfering with the said property as a rooming house. . . ." There are four reasons herein why the plaintiff must fail in this action.

(1) The change in the nature of the premises from a one-family house has been brought about by plaintiff or his predecessor in title. No permit was received from the building department and apparently alterations to effectuate the change were made without any sanction in law. Hence, the maintenance of the boarding house was illegal. Such illegality can furnish plaintiff no basis for the claim that the zoning ordinance is invalid.

(2) Plaintiff's house is immediately adjacent to a business district and he cannot be heard to complain concerning the buildings which are properly erected in such business zone, most of which were built before plaintiff's house was built. In addition, some of the other conditions concerning which complaint is made, were in existence at the time plaintiff purchased the property, and he, therefore, bought with full knowledge of the situation Furthermore, as to some of the conditions complained of, it appears that variances have been granted by the zoning board of appeals.

(3) Failure of the City to enforce the ordinance in the past does not estop the City from enforcing it at this time. In *Premium Bond Corp. v. City of Long Beach*, 249 A. D. 756, a vested right to conduct a rooming or boarding house contrary to the city's zoning laws was claimed for the same reason of lack of enforcement, and also for the further reason that the city's water department had classified the property involved as a rooming and boarding house and had applied the schedule of charges adopted for such classification of the said premises. The Appellate Division said: "In our opinion, the City of Long Beach is not estopped from enforcing the provisions of the zoning ordinance because of any acts or conduct on the part of any of its administrative officers. The adoption of a zoning ordinance is a governmental function."

(4) The fact that other property in the vicinity may be illegally operated or used contrary to the provisions of the zoning law is not such a change in the character of a use as to justify the intervention of a court of equity. When a change of character is indicated, it means always a legal change of character. Furthermore, as was said by the court in *Borum v. Village of Owego*, 260 App. Div., 328; affirmed 284 N. Y. 655: "A violation of the ordinance cannot be used by the plaintiff as the basis for finding that the ordinance is invalid as the question is not whether someone else has been favored but whether the petitioner has been oppressed (citing cases)."

It follows that the complaint must be dismissed. . . .

EDITOR'S NOTE.—One of the reasons given for the judgment against the plaintiff is that he knew of the conditions of which he seeks to take advantage before he purchased his property. This would not seem to be a valid reason for denying relief. Zoning is an adjustment of properties so as to bring about their fullest utilization comparable with the public good, as well as the fixing of a pattern for the best future development of the community. To view matters from the standpoint of the owner of the property does not necessarily aid in bringing about these results.

Airport Zoning

Two model airport zoning acts have been prepared, one dated January 6, 1941, by the Civil Aeronautics Administration of the Department of Commerce, Washington, D. C., and the other dated February 15, 1941, by the National Institute of Municipal Law Officers, 730 Jackson Place, Washington, D. C. The Department of Commerce says of these acts that they "are similar in most respects, differing only in that the February 15 draft . . . places full control of airport zoning in the local political subdivisions, while the January 6 draft . . . places a measure of control in an agency of the state goverment"; and adds that it "does not express an opinion as to the constitutionality of airport zoning, the reason being that there have been no cases upholding such an exercise of the police power. However, it may be noted that there are many airports, the aerial approaches of which have been protected against obstructions by this method, in some cases for many years, and that twenty-two states now have police power airport zoning acts of some sort, of which eleven were adopted this year" (1941).

While it is true that there have been no cases upholding airport zoning, there have been a number of decisions with regard to the subject, most, if not all, of which have been noted in this department, and the law with regard to such zoning may perhaps be briefly stated as follows:

Public airports are public utilities. Zoning to be valid must be in accordance with a general plan. Such zoning may and should be done with reference to the interests of the airport, but the interests of the landowner should also be considered. It would seem to be quite possible to regulate and limit uses in the neighborhood of the airport and still have due regard to neighboring land uses. Airport zoning should be a part of a general zoning plan, or if it is distinct from it should be in harmony and integration with it.

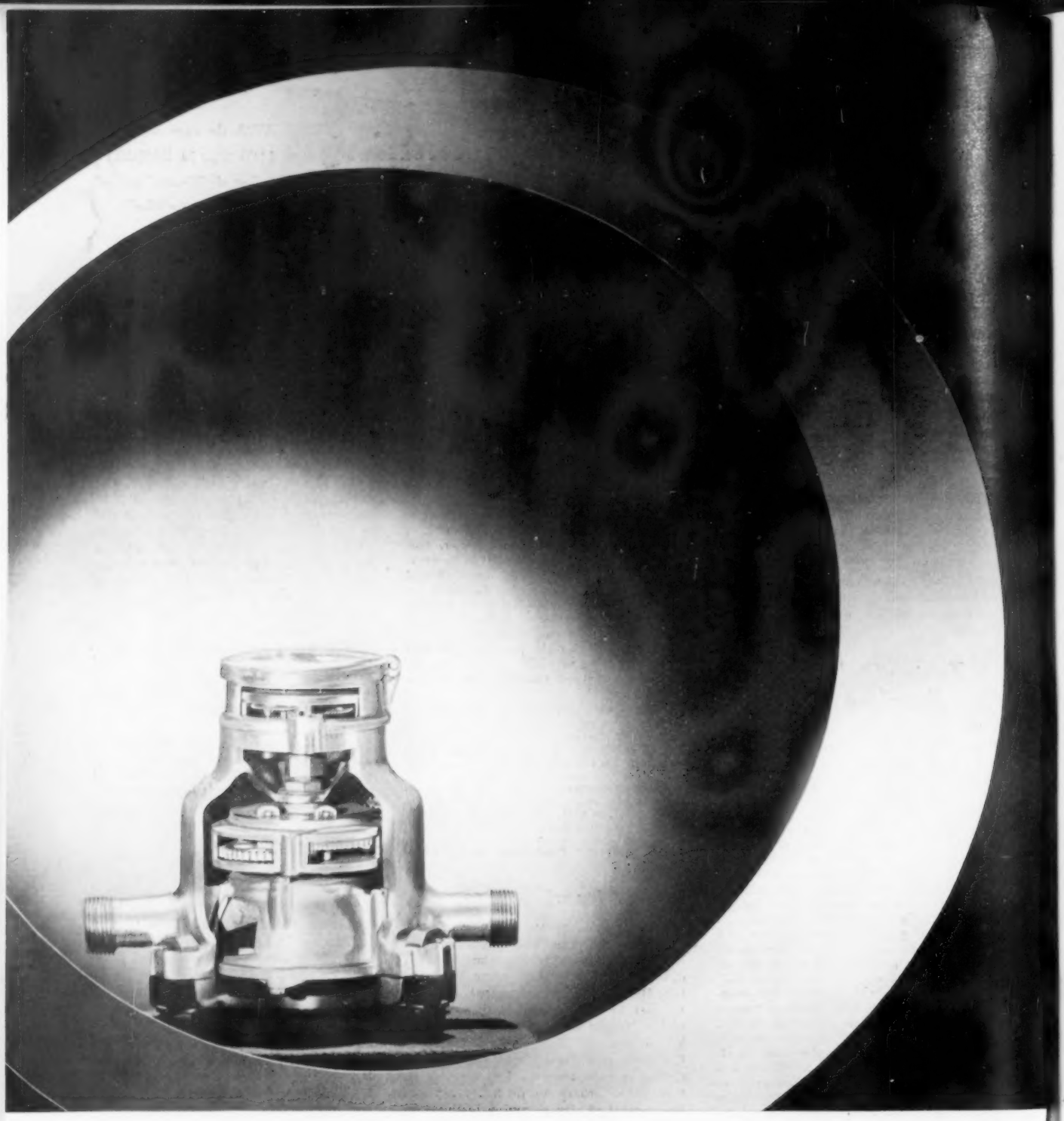
The two model acts we are considering are enabling acts giving authority to zone. There would seem to be nothing in them to prevent the zoning authority acting under them from enacting airport zoning which is reasonable, and would in fact form a part of a general zoning plan.

A Unique Zoning Provision

Los Angeles has, by amendment to its charter, provided for the appointment of a zoning administrator, an official unique in the history of zoning. The statutes of California do not provide for the appointment of local boards of appeal to grant variances in cases of unnecessary hardship and practical difficulty as is usual in most states. The procedure in California in such cases therefore is for the aggrieved party to petition the local legislative body to amend the zoning ordinance to give him relief. In Los Angeles such a petition was reported to the City Planning Commission, and its recommendation could be overruled only by a two-thirds vote of the Council.

This procedure placed a severe burden upon the City Planning Commission and the City Council. Los Angeles therefore has provided for the appointment of a zoning administrator who, in addition to relieving the Commission and the Council of other duties, has been given authority to hear and decide zoning cases of practical difficulty and unnecessary hardship, subject to review by a newly created Board of Appeals.

There has been a growing feeling in California that local authorities should begin, as in most other states, to appoint boards of appeal, although there has always been some doubt of the constitutionality of such a measure in that state. The writer has always believed that such boards could be constitutionally provided for by statute in California; but, not being familiar with the extent of the home-rule powers of Los Angeles, is unable to judge as to validity of the method just adopted by that city to obtain them.



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Municipal Law Notes and Decisions

Prepared by NATIONAL INSTITUTE OF MUNICIPAL LAW OFFICERS, WASHINGTON, D. C.
CHARLES S. RHYNE, Executive Director

Emergency War Powers of Cities

IN an able treatise entitled "The Effect of An Emergency Upon the Police Powers of a City" City Attorney *Louis H. Burke* of Montebello, Calif., and Deputy City Attorney *Robert H. Patton* of Los Angeles, Calif., have presented a discussion which is of extreme interest to municipalities at the present time. Originally prepared for presentation at the Annual Meeting of the National Institute of Municipal Law Officers, it now appears in the National Institute's 1941 edition of "Municipalities and the Law in Action." Some of their findings appear in the following condensation.

Supplying of Necessities

The power of government to supply the necessities to its inhabitants during an extreme emergency is included with the general police power of a city. Such relief may be accorded even in cases of wide-spread inability to obtain employment. *Muskegon Heights* v. *Danigelis*, 253 Mich. 260, 235 N.W. 83, 73 A.L.R. 696; *Albritton* v. *Winona, Miss.*, (1938) 178 So. 799, 115 A.L.R. 1436. In upholding a rent-control law, it was said that a city has a latent power to engage in business if such is necessary to provide its inhabitants with food, shelter, clothing, and fuel. *People* v. *La Fetra*, 230 N. Y. 429, 130 N. E. 601, 16 A. L. R. 152 (1921). But in extending this relief, care must be exercised to avoid the making of gifts of public funds. 73 A. L. R. 699; *State ex rel. Griffiith* v. *Osawkee*, 14 Kan. 418, 19 Am. Rep. 99; *Lowell* v. *Boston*, 111 Mass. 454; *Patty* v. *Colgan*, 97 Cal. 251, 18 L. R. A. 744; *Com. ex rel. Kirschler* v. *Brown*, 15 Pa. Dist. R. 582.

Destruction of Property

As to the power of a city to take or destroy property during an emergency, it is established that the ordinary procedures of eminent domain may be dispensed with but that the duty to pay for private property taken for public use remains. However, where property is destroyed to prevent the advance of an enemy, or the spread of a fire or flood there need be no compensation. *United States* v. *Russell*, 13 Wall. 623, 20 L. Ed. 474, 80 U. S. 623; *United States* v. *Pacific R. R. Co.*, 120 U. S. 227, 30 L. Ed. 634; *Bishope* v. *Mayor of Macon*, 7 Ga. 200, 50 Am. Dec. 400; *Dunbar v. Alcalde of San Francisco*, 1 Cal. 355; *Bowditch* v. *Boston*, 101 U. S. 16, 25 L. Ed. 980; *Phoenix Assur. Co.* v *Fire Dept.*, 117 Ala. 649, 42 L. R. A. 472, 23 So. 848.

Wartime Measures

An interesting example of this doctrine as applied to municipal wartime measures is found in the destruction of all liquor within the City of Richmond when occupation by the Union Force was imminent. The city gave receipts pledging to pay at a later date. The court found that the power to destroy was to be found in the charter provision authorizing the city "to pass all by-laws, rules and regulations . . . necessary for the . . . good order . . . or safety of the city," and that the power to pay was to be found in the fundamental power "to contract and be contracted with" and in the charter provision relating to eminent domain. *Jones & Co.* v. *Richmond*, 59 Va. 517, 18 Grattan 517; *Richcond* v. *Smith*, 15 Wall. 429, 21 Fed. 200, 82 U. S. 429. But in a later case on the same point the court held the entire transaction *ultra vires*. This opinion is persuasive on the point that a destruction of the character involved was not a "taking for a public use" within the law of eminent domain, and therefore it may be correct in holding the pledge of credit to be *ultra vires*, but in so far as it suggests that such a crisis will not support a destruction order the decision fails to convince. *Wallace* v. *Richmond*, 94 Va. 204, 26 S. E. 586.

CONCLUSION

There is a common thread traceable through these decisions. If governmental power is sought to be exercised in an emergency so as to impair private rights, or to overreach a restriction imposed by higher law, approval by the courts is not to be expected unless the danger to be met is of such gravity in proportion to the degree of the impairment or violation involved, as to virtually impose an affirmative duty upon the officers of the government to take the course contemplated. If the act or omission contemplated is in excess of, or out of balance with, the need, it may be as unlawful as though there were no need.

Urgency as Source of Power

The urgency of the times will support otherwise questionable measures to regulate the conduct of businesses which are charged with a public interest. *Wilson* v. *New*, 243 U. S. 332, 61 L. Ed. 755, 37 Sup. Ct. 298; McQuillin 786. *People* v. *La Fetra, supra; German Alliance Ins. Co.* v. *Lewis*, 233 U. S. 389; *Block* v. *Hirsh*, 256 U. S. 135, 41 Sup. Ct. 458, 16 A.L.R. 165; 86 A.L.R. 659; *Downham* v. *Alexandria*, 58 F (2d) 219; *McCurley* v. *El Reno*, 138 Okla. 92, 280 Pac. 467. But it is essential that a true emergency exist in the eyes of the court. *Ex parte Kazas*, 22 Cal. App. (2d) 161, 70 Pac. (2d) 962.

Debt Limitations

It seems probable that debt limitations will not be permitted to stand in the way of the making of expenditures for the furnishing of necessities or the taking of other action to cope with an imperative emergency. *Hopkins County* v. *St. Bernard Coal Co.*, 114 Ky. 155, 70 S. W. 289, 24 Ky. Law Rep. 942; *Harris* v. *Morganfield*, 201 Ky. 588, 257 S. W. 1032; *Samuels* v. *Clinton*, 184 Ky. 97, 211 S. W. 567; *Marion* v. *Haynes* 157 Ky. 687, 164 S. W. 79.

Some statutes permit an increase in tax rates beyond the normal limits in the event of an emergency. Such a provision came under scrutiny of the courts following the San Francisco earthquake. *San Christina* v. *San Francisco*, 167 Cal. 762, 141 Pac. 384; *Burr* v. *San Francisco*, 186 Cal. 508, 17 A.L.R. 581. Although the court ruled against the levies in these cases, it seems clear that it was because the facts in each case did not justify resort to the emergency power, rather than because of any invalidity in the charter exception. For cases where such provision was sustained, see *Murray* v. *Zook* (Ind.), 187 N. E. 890, 90 A.L.R. 321; *Wilkens* v. *Newkirk*, 85 Ind. App. 665, 153 N. E. 516; and *Follett* v. *Sheldon*, 195 Ind. 510, 144 N. E. 867. But see: *Atlanta* v. *Scott*, 111 S. E. 426 (Ga. 1922). In general, it appears that the additional levy will not be sustained where the only justification for it lies in the inability of the city to meet its ordinary obligations if held to the normal rate. Moreover, the ordinance making the levy must segregate the expenditure for the purpose of meeting the emergency from others of a non-emergency character.

Expenditures Exceeding Appropriations

Where a charter or statute prohibits debt or expenditure in excess of the appropriation unless an emergency occurs, the courts have uniformly insisted upon the existence of a real emergency. *Tobin* v. *Sundance*, 45 Wyo. 219, 17 Pac. (2d) 666, 84 A.L.R. 902; *Lyons* v. *Bayonne*, 101 N.J.L. 455, 130 Atl. 14; *Continental Construction Co.* v. *City of Lawrence*, 9 N. E. (2d) 550; *Dyer* v. *Boston* (1930) 272 Mass. 265, 172 N. E. 235; *Chicago* v. *Nichols* (1898) 177 Ill. 97, 52 N. E. 359; *Merrill* v. *Lowell* (1920) 236 Mass. 463, 128 N. E. 862; 111 A.L.R. 703.

Where money has been spent without the required prior certification, a court has held that such a requirement must be deemed suspended during an emergency threatening the public peace. *Youngstown* v. *First National Bank*, 106 Oh. St. 563, 140 N. E. 176.

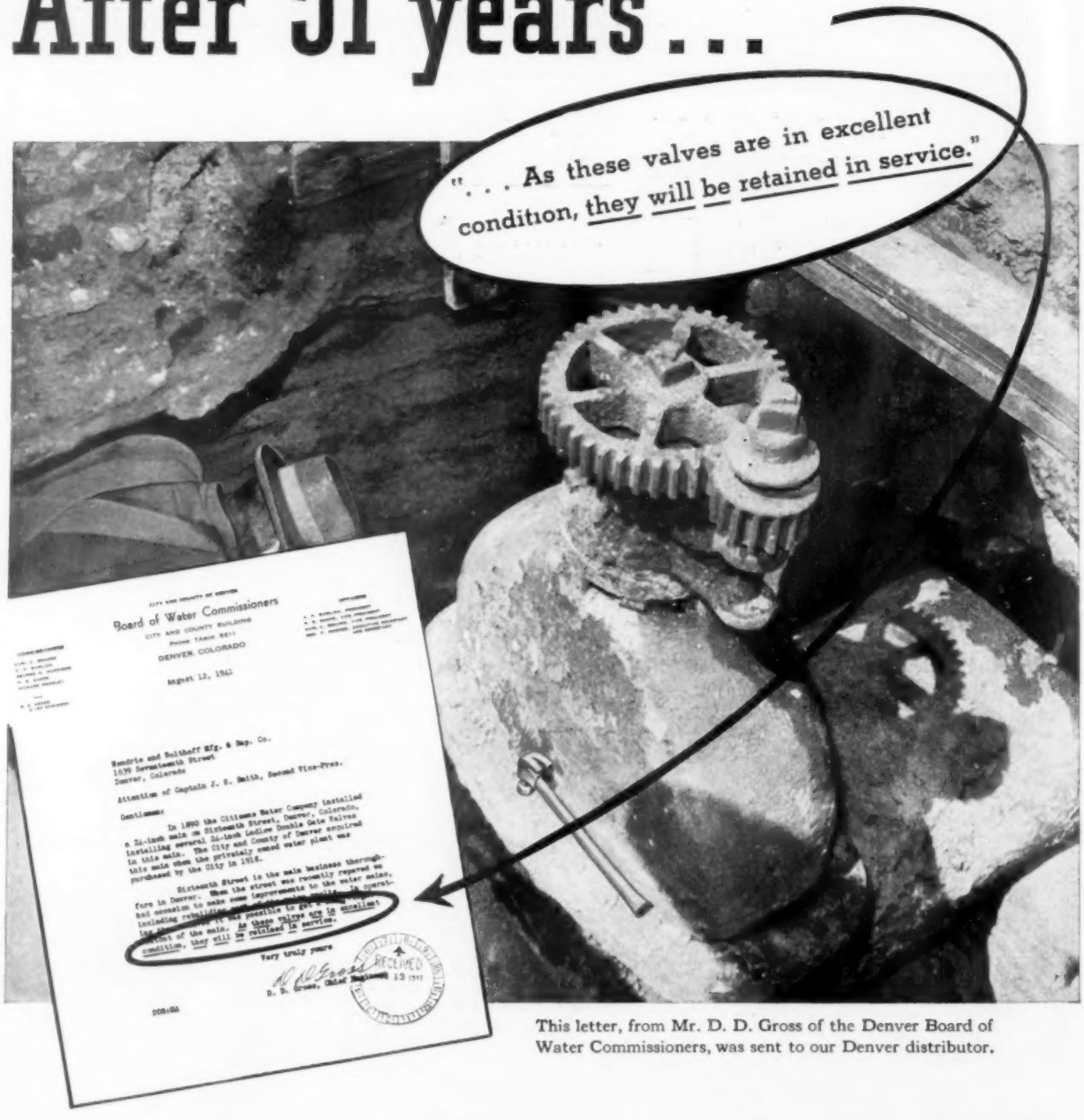
Sale of Bonds

As to the sale of municipal bonds below par where there exists a statutory prohibition against it, the weight of authority seems to be that an emergency does not of itself justify the disregarding of the provision. 91 A.L.R. 26; *Spear* v. *Bremerton*, 90 Wash. 507, 156 Pac. 825; *State* v. *Buchanan*, 52 S. W. 480; *Stokes* v. *Paschall*, 243 S. W. 611. While one case would appear to be opposed to the general rule, it should be noticed that the court carefully confined its holding to the facts and avoided a general rule. *Church* v. *Hadley*, 240 Mo. 680, 145 S. W. 8, 39 L.R.A. (N. S.) 248.

Finding of Emergency

Where the charter or statutory regulations pertaining to municipal purchasing and contracting expressly sets forth an exception to cover an emergency, the finding of the officer or body, upon whom the duty of acting was imposed, that there was in fact an emergency, will be accepted as *prima facie* true, and while

After 51 years . . .


". . . As these valves are in excellent condition, they will be retained in service."
Board of Water Commissioners
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installing several 24-inch Ludlow Double Gate Valves
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this main when the privately owned water plant was
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Very truly yours
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not binding on the courts, that finding will not be disturbed unless shown to have been made arbitrarily or fraudulently, or unless it is clear that no emergency existed in fact. *L. A. Dredging Co.* v. *City of Long Beach*, 210 Cal. 348, 71 A.L.R. 161; *Tobin* v. *Sundance*, *supra*.

Employment of Extra Help

As to employment of additional persons by the municipality, it is often held that, with the exception of day laborers, authorization for this is vested in the legislattive body exclusively. But it would appear that even in the absence of statutory authority, if the emergency truly warrants the temporary hiring of additional persons, the actions of the chief executives or of those in command in so doing will be upheld. *Youngstown* v. *First Nat'l. Bank*, 160 Oh. St. 563, 140 N. E. 176; McQuillin Municipal Corporations, Secs. 443-444; *Boyle* v. *Newbern*, 64 N. C. 664.

Although it is considered against public policy for a municipality to pay for services rendered without prior authorization, recovery has generally been sanctioned where the services were rendered in good faith, and especially in cases of emergency. McQUILLIN ON MUNICIPAL CORPORATIONS Secs. 534 and 1276; *Boyle* v. *Newbern*, *supra*; *Youngstown* v *First Nat'l. Bank*, *supra*; *Rice* v. *Gwinn*, *supra*. But see *Wichita Water Co.* v. *Wichita*, 158 Pac. 49.

Effect of Emergency Finding

There seems to be no unanimity of opinion as to whether a legislative statement to the effect that an emergency exists constitutes a finding which in the absence of fraud is binding on the court. Some cases involve consideration of a declaration of emergency which was used as a basis of some extraordinary action, and not just as a means of advancing the effective date of an ordinance which would otherwise take effect at the usual time. *Lyons* v. *Bayonne*, 101 N.J.L. 455, 130 Atl. 14; *San Christina Invest. Co.* v. *San Francisco*, 167 Cal. 762, 52 L.R.A. (N. S.) 676; *Ex Parte Kazas*, *supra*; *Murray* v. *Zook*, *supra*; *Block* v. *Hirsh*, supra. Others may be found where the declaration of emergency was used to advance the effective date of an ordinance. 7 A.L.R. 519; 55 A.L.R. 779; 110 A.L.R. 1435; *State* v. *Kennedy*, 132 Oh. St. 510, 9 N. E. (2d) 278; *Shields* v. *Loveland*, 74 Colo. 27, 218 Pac. 915; *Thielke* v. *Albee*, 79 Ore. 48, 153 Pac. 795; *State ex rel. Swift* v. *Dillon*, 75 Fla. 785, 79 So. 29.

Suspending Referendum Requirements

Requirements of referendum may often be suspended in an emergency, and in such event the same general problems arise as apply under the advancement of the effective date of an ordinance through the use of the emergency clause. *L. A. Gas Co.* v. *Los Angeles*, *supra*; *Shields* v. *Loveland*, *supra*; *People* v. *Wanmer*, 276 Ill. 460; *Vansuch* v. *State*, 112 Oh. St. 688, 148 N. E. 232; *Morgan* v. *Long Beach*, *supra*; *Michelson* v. *Sacramento*, 173 Cal. 108, 159 Pac. 431.

Term of Emergency Ordinance

An emergency ordinance need not be limited to a fixed term. The validity of an emergency law does not depend upon its limitation as to time, but solely on the existence of an emergency. *Houringan* v. *North Bergen Twp.*, 113 N.J.L. 143, 172 Atl. 193; *Home Bldg. and Loan Ass'n.* v. *Blaisdell*, 290 U. S. 398, 54 Sup. Ct. 231, 88 A.L.R. 1481.

Competitive Bidding

Competitive bidding may by some charters or statutes be set aside in cases of emergency, but a temporary emergency may not be used as a subterfuge to avoid competitive bidding over a long term. *Mallon v. Board of Water Commissioners*, (Mo. 1910) 128 S. W. 764.

Unwritten Contracts

The requirement that municipal contracts must be in writing has been held not to apply in a true emergency. *North River El. L. & P. Co.* v. *New York*, 62 N. Y. S. 726. The force of this decision may be somewhat lessened by the fact that the courts of New York have recognized a right of recovery in quasi-contract in cases where public utilities have been furnished to a city for use in the public benefit. In one case where a true emergency arose the court refused to waive the requirement of a formal contract. *Pyrene* v. *Atlanta* 110 S. E. 408. But it is possible that the case would have been decided otherwise, if the city officer has summarily appropriated the property to the public use. 11 Am. Jur. 1005; 18 Am. Jur. 643; *United States* v. *Russell*, *supra*.

Where the order for needed materials or services was not given by the proper officer, but a true emergency exists, it is quite probable that the contract will be upheld. Where municipal liability in quasi-contract is established the supplier will almost certainly recover fair value. *Sheehan* v. *City of N. Y.*, 75 N. Y. S. 802; *Shulse* v. *City of Mayville*, 271 N. W. 643; *Lucier* v. *Manchester*, 80 N. H. 361, 117 Atl. 286; *Smedley* v. *Grand Haven*, 125 Mich. 425, 84 N. W. 626; *Rice* v. *Gwinn*, 5 Idaho 394, 49 Pac. 412.

Whether in times of emergency a city officer may contract personally with the municipality in the face of a charter restriction seems to depend on whether another person is available to perform the particular service urgently needed. *City of Greenfield* v. *Black*, 82 N. E. 797. *Byrne & Speed Coal Co.* v. *Louisville*, 224 S. W. 883; *McNay* v. *Town of Lowell*, 84 N. E. 778.

Other Recent Legal Decisions

Parking Meters—Police Power—Revenue

Fees received from the operation of parking meters are not revenue, but are incident to regulation in the exercise of police power, and represent a return to the city of the cost of regulation. Prima facie, such a fee fixed by ordinance should be accepted as a cost of the service in the absence of a clear showing of no relation to cost. *City of Phoenix* v. *Moore*, 113 P. (2d) 935 (Ariz. 1941).

Taxation—Assessment—Fraud—Claim of Disproportionate Assessment

While a taxpayer may seek judicial relief against a fraudulent assessment for tax purposes, the Court will not entertain complaint that a tax is excessive even though grossly so. The Southern California Telephone Co. failed to establish fraud in the assessments by the State Board of Equalization of its property located in Los Angeles County by a tendency to show that the assessments against it were disproportionate as compared with other assessments of like property. About 70 California municipalities joined in amici curiae briefs in the case in view of similar suits pending against them. *Southern California Telephone Co.* v. *Los Angeles Co.*, *Same* v. *City of Los Angeles*, 113 P. (2d) 773 (Dist. Ct. of Appeal 3rd, Calif. 1941).

Tort Liability—Proprietary, Governmental Tests

A county in operating a basket or aerial carrier operated by cable for the convenience of the public in crossing a river is engaged in a proprietary function and liable to one injured by the collapse of the tower. *Jacoby* v. *Chauteau County*, 112 P. (2d) 1068 (Mont., 1941).

Tort Liability—Governmental Functions—Sewers

In order to involve the doctrine of liability for a nuisance even though exercising a governmental function, the nuisance must in some way constitute an unlawful invasion of the rights of others. A city is exercising a governmental function in maintaining and operating a sewer and is not liable for nuisance or attractive nuisance for drowning of an infant in a cesspool of the sewer system. The child had jumped into the cesspool, which was open and unguarded. *Gotcher* v. *City of Farmersville*, 151 S. W. (2d) 565 (Texas 1941).

Powers—Taxi Business—Police Chief

Although it was proved to be customary for the Police Chief of the city of O'Neill to furnish transportation for the inhabitants to and from late night trains, since there was no satisfactory taxi service in the town, the Court held that the city had no authority to furnish taxi service, and the Police Chief who was injured while calling for a party to take her to a train was not entitled to workmen's compensation. *Coyne* v. *City of O'Neill*, 298 N. W. 547 (Nebr. 1941).

Housing Authorities—Taxation—Indebtedness

A Housing Authority is not a county, city, town, township, board of education, school district, or other subdivision of the state within the constitutional limitations on indebtedness which requires the approval of two-thirds of the electors of any taxation. Bonds issued by the Housing Authority are payable out of revenues only, which are not taxes. *Lloyd* v. *Twin Falls Housing Authority*, 113 P. (2d) 1102 (Idaho 1941).

Tort Liability—Maintenance of Parks—Lease of Premises to Private Parties

A city is liable for negligent maintenance of a city park or playground and does not escape this liability by a lease of the premises to private parties. A city softball league had been given permission to use the city playground and bleachers for a softball game. The bleachers collapsed, causing the death of one of the spectators. While the negligence of the city with respect to reasonable care in the maintenance of the bleachers is a question of fact for the jury, if so negligent the city is liable. In this case a directed verdict for the defendant city was overruled and the case remanded. *Harllee* v. *City of Gulfport*, 120 F. (2d) 41 (C. C. A. 5th, 1941).

Officers—Defense of Actions Against, at City Expense

A city cannot reimburse a police officer for expenses incurred in defense of an action arising out of an unlawful commission of a battery even where the act is closely related to official duty. *City of Nampa* v. *Kiliter*, 113 P. (2d) 411 (Idaho, 1941).

Civil Liberties—Freedom of the Press

A city ordinance prohibiting distribution of any printed matter in the streets, etc., without a permit obtained from a police officer and saluting in the presence of the police officer the flag of the United States, reciting the pledge of allegiance, and furnishing sufficient information of identification, violates the constitutions of the state of Idaho and the United States. A Federal District Court has jurisdiction to restrain prosecution for violation. *Kennedy* v. *City of Moscow*, 39 F. Supp. 26 (Idaho 1941).

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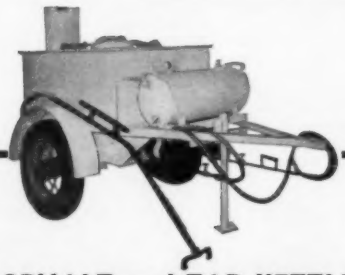

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Surveying

Surveying.—By Charles B. Breed, Professor of Civil Engineering, Massachusetts Institute of Technology. John Wiley & Sons, Inc., New York. 1942. 495 *pp.* $3.00 *from* THE AMERICAN CITY.

Professor Breed has taken a new but necessary viewpoint in the preparation of this volume on surveying. In his preface he points out that with the broadening of instruction in civil engineering to include the newly developed branches of the profession some of the older branches have been curtailed, and this is particularly true of surveying. This volume gives a thorough coverage of the usual field and office practices in land surveys, in leveling, and topographical surveys. The particular problems which arise in connection with engineering construction are covered in the chapter on Lines and Grades. Aerial survey is only covered to show when it should be employed, and how its accuracy is controlled by ground surveys. A feature of the book is that a single land survey is carried along from one chapter to another through the original survey, its field-notes, its computations and, finally, the finished map. Thus the student or reader follows the entire process as applied to one typical survey.

Construction Standards

Two pamphlets received from the American Institute of Steel Construction, 101 Park Ave., New York.

Specification for the Design, Fabrication and Erection of Structural Steel for Buildings.—As Adopted 1936; *revised July,* 1941. 19 *pp.* 10c.

Eight parts cover: general; material; loads and stresses; unit stresses; design; fabrication; erection; and inspection.

Code of Standard Practice for Steel Structures Other Than Bridges.—As adopted June, 1937; *revised Aug.,* 1941.

Ten sections cover: general; classification; invoicings; drawings and specifications; stock material; inspection and delivery; erection; delays in prosecution of work; extra work; proposals and contracts.

A.S.T.M. Standards on Mineral Aggregates. —Sponsored by Committee-9 on Concrete and Concrete Aggregates and Committee-4 on Road and Paving Materials, American Society for Testing Materials, 260 S. Broad St., Philadelphia, Pa. 1941. 140 *pp.*, $1.25.

This publication issued by the American Society for Testing Materials, December 1941, is the first special compilation of specifications, definitions, and methods of sampling and testing mineral aggregates. Fifty standards are given in their latest form. While most of the specifications pertain to concrete and concrete aggregates, and to road and paving materials, there are standards also pertaining to the following fields: lime, gypsum, masonry mortar, glass products, water-proofing, and roofing materials. The 29 specifications given carry standard requirements for such materials as concrete aggregates, sand for use in plaster, lightweight aggregates, crushed stone, mineral filler, gravel, etc. There are 21 standardized methods of sampling and testing, all of these being used to determine important properties of these materials.

Wartime Legal Problems

Blackouts and Air Raids—Model Ordinance Annotated.—National Institute of Municipal Law Officers, 730 Jackson Place, Washington, D. C. 1942. 36 *pp.* $2.00.

The full text of the ordinances of 12 cities, and other model statutes, ordinances and materials relating to wartime problems of cities, prepared with the assistance and approval of the Office of Civilian Defense and the Office of Emergency Management.

Urban Redevelopment Proposals

A Handbook on Urban Redevelopment for Cities in the United States.—Federal Housing Administration, Washington, D. C. Apply to Supt. of Documents, Washington, D. C. 1941. *ix* + 105 *pp.* 15c.

A Proposal for Rebuilding Blighted City Areas—The Essentials of a Plan Developed by the Committee on Housing and Blighted Areas of the National Association of Real Estate Boards. Published by The Urban Land Institute, 22 W. Monroe St., Chicago, Ill. 1941. 4 *pp.*

Urban Redevelopment and Housing—By Guy Greer and Alvin H. Hansen. Planning Pamphlet, No. 10, National Planning Association, 1721 Eye St., N. W., Washington, D. C. 1941. 24 *pp.* 25c.

These three publications present three independent programs for urban redevelopment which, although differing in some of their main points, have remarkable similarities. Each provides for comprehensive planning; for land acquisition, assembly, and control by local government or some body set up within the local government; and for rebuilding mainly by private enterprise. Recommendations differ in the three publications on other aspects of the proposed programs: financing, legislation, administrative organization, the relations of the federal and local governments, and the place of public housing in the picture. The leaflet published by the Urban Land Institute contains only the essentials of its proposed plan. The FHA Handbook contains a detailed discussion of the problem, with considerable discussion of planning principles and procedures. (See article by Clarence S. Stein on p. 67 of this issue.)

The Problem of Decentralization and Disintegration in Cities.—The Denver Planning Commission, Denver, Colo. 1941. 19 *pp.*

Summary of the discussion on urban decay and redevelopment, at the Conference held last October, at the Massachusetts Institute of Technology, in Boston, under the auspices of The Urban Land Institute.

A Selected List of Important and Recent Publications on Urban Rehabilitation.—American Institute of Planners, 1313 E. 60th St., Chicago, Ill. 1942. 1 *pp.*, *mimeo.*

General publications and local studies.

Post-War Planning

A Survey of Institutional Research on American Post-war Problems.—Prepared by George B. Galloway. The Twentieth Century Fund, New York. 1941. 81 *pp.*, *mimeo. Limited supply.*

This publication testifies to the wide national interest in post-war problems. It is a preliminary survey of research that is being carried on or planned in the field of American post-war problems, covering the work of 52 agencies—21 governmental, 17 private, 10 industrial, and 4 agencies for international studies. A selected bibliography of books, magazine and newspaper articles, and other miscellaneous publications, occupies 16 pages.

Traffic Control Principles

Uniformity in Highway Traffic Control—Published by the Eno Foundation for Highway Traffic Control, Inc., Saugatuck, Fairfield County, Conn. 1941. *xvii* + 83 *pp.* $1.00.

A pocket-size booklet containing brief chapters on the basic principles of highway traffic control. Chapters II through VI deal with uniformity in police enforcement, traffic engineering, licenses and registrations, traffic aids, and rules for pedestrians. Other chapters discuss a federal traffic-control code, cycles, one-way traffic, parking, speed, elimination of unnecessary traffic noise, highway safety, and automobile styling. It is planned to publish later separate pamphlets on each of the subjects covered in the book.

Traffic Accidents

Financial Responsibility in Motor Accidents. —Research Department, Illinois Legislative Council, Springfield, Ill. 1941. 37 *pp.*, *mimeo.*

Analysis and evaluation of state financial responsibility laws, and compulsory automobile insurance.

St. Louis Traffic Study

Report of Citizens Traffic Committee, St. Louis, Mo., Jan., 1942. 343 *pp.*, *mimeo.*

A well organized report by a St. Louis citizens' committee, giving recommendations for reduction of traffic accidents and the facilitation of traffic flow, in the fields of engineering, enforcement, and education.

Home Front Mobilization

The Mobilization of the Home Front—The British Experience and Its Significance for the United States.—By Eric H. Biddle for the American Public Welfare Association. Apply to Public Administration Service, 1313 E. 60th St., Chicago, Ill. 1942. 47 *pp.* 60c.

Description of the principal measures taken by civilian agencies for the mobilization of manpower and the administration of the home front in Great Britain, and a discussion of the administrative lessons to be learned from those measures by American public officials.

Construction

Practical Arc Welding—A Text Book.—By W. J. Chaffee. Hobart Trade School, Inc., Box EW 80, Troy, Ohio. 1942. 516 *pp.* $2.00 *from* THE AMERICAN CITY.

Written to provide a modern textbook to take the place of "Arc Welding and How to Use It," by the same author, this book presents general information on the uses, applications, costs, etc., of arc welding; the instructions given in the training course for arc-welding operators; a dictionary of welding terms, and tabular information useful for operators.

Fire Insurance

Municipal Fire Insurance.—Prepared by the Committee on Municipal Insurance of the League of California Cities, Berkeley, Calif. 1941. 50 *pp.* $1.00.

The first of a series on municipal insurance, this one on fire insurance inquires into the methods of placing insurance, types of coverage, and cost; and recommends procedures whereby cities may obtain a maximum of coverage at a minimum of cost. A suggested policy form, with explanatory statements, is included.

Defense Against Fires

National Defense Fires.—National Fire Protection Association, 60 Batterymarch St., Boston, Mass. 1941. 20 *pp.* 10c.

Photographs of 16 huge conflagrations which have destroyed millions of dollars of defense materials, with terse captions giving known facts on causes, amount and type of loss, and ways in which the fires could have been prevented.

Health in Wartime

Fitness for Victory.—Prepared by National Recreation Association, 315 Fourth Ave., New York. 1942. 24 *pp.*

"To help bring Victory every one of us must be at his best physically. Our morale must be high." This attractive booklet gives suggestions with dramatic action photographs and brief captions, for keeping fit by a multitude of sports available to almost every American. Cities having recreational facilities under leadership are listed for each state.

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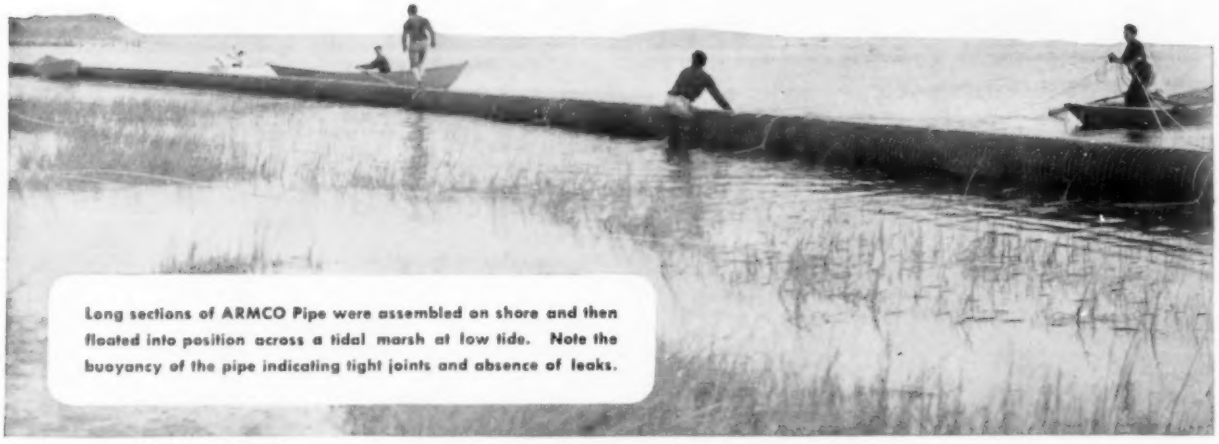

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Civilian Defense

Received from the U. S. Office of Civilian Defense, Washington, D. C.: A Civilian Defense Volunteer Office—An Official Arm of the Local Defense Council. 27 *pp. The Control System of the Citizens' Defense Corps.* 30 *pp.*

Fire Defense Organization. 4 *pp.*

Fire Protection in Civilian Defense. 44 *pp.*

Glass and Glass Substitutes—Protective Construction Series No. 1. 18 *pp.*

"How Do I Go About Aiding in Civilian Defense?" 4 *pp.*

Meet Your Air-Raid Warden! 1 *pp.*

Staff Manual, U. S. Citizens' Defense Corps. 9 *pp.*

Training Auxiliary Firemen. 7 *pp.*

Training Courses for Civilian Protection Enrolled Volunteer Groups. 34 *pp. The United States Citizens Defense Corps—Who Can Join, How to Join, Qualifications.* 39 *pp. What Work Is There for Women Volunteers in Civilian Defense?* 4 *pp.*

Seven pocket-size handbooks: Auxiliary Firemen (94 *pp.*); *Fire Watchers* (52 *pp.*); *Decontamination Squads* (62 *pp.*); *Demolition and Clearance Crews* (52 *pp*); *Messengers* (44 *pp.*); *Rescue Squads* (56 *pp.*); *and Road Repair Crews* (44 *pp.*)

Civilian Defense: A Selected List of Recent References.—Compiled by Helen F. Conover, under the direction of Florence S. Hellmen, Chief Bibliographer. Division of Bibliography, The Library of Congress, Washington, D. C. 1941. 43 *pp., mimeo.*

A list of 429 publications on the subject of civilian defense, arranged under the headings of civilian-defense organization; air-raid protection; health and welfare; women in civilian defense; and morale.

Government Expenditures

Curtailment of Non-Defense Expenditures.—By Henry P. Seidemann. Published by The Brookings Institution, Washington, D. C. 1941. *vii* + 54 *pp.* 25*c.*

This pamphlet analyzes the amount and trends of non-defense expenditures by government at all levels; and estimates possible reductions in non-defense federal expenditures to decrease them by 2 billion dollars. One of the principal means suggested for achieving the reduction is by transferring costs to state and local governments, whose financial positions have improved from the defense program.

NRPB Progress

Progress Report, National Resources Planning Board, 1940-1941.—*Apply to Supt. of Documents, Washington, D. C. v* + 81 *pp.* 25*c.*

A readable report, with maps and charts, of the work of the National Resources Planning Board for the two-year period ending June 30, 1941, covering developments and progress in federal, regional, state, and city planning, under the Board. The personnel of the board, divisions, and field offices is listed.

Record Preservation in War

The Care of Records in a National Emergency.—Bulletin No. 3 *of the National Archives, Washington, D. C.* 1941. 35 *pp.*

This bulletin contains two documents. The first, on the care of records in a national emergency, prepared by committees of the Society of American Archivists, considers hazards likely to affect archives, the selection of archives for protection, buildings and storage facilities, and evacuation. The second is a bibliography on the conservation of cultural resources in time of war.

The Prisons and War

Gearing Prisoners to the National Defense.—By Sam A. Lewisohn. Reprinted from the Nov.-Dec. issue of The Prison World, *official publication, American Prison Association & National Jail Association,* 135 *E.* 15*th St., New York.* 4 *pp.*

A proposal whereby inmates of prisons may take part in the defense program.

Police Powers in Wartime

The Effect of an Emergency upon the Police Powers of a City.—League of California Cities, 2121 *Allston Way, Berkeley, Calif.* 1941. 45 *pp., mimeo.* $1.00.

A reference and guide to the emergency powers of cities, including the power to supply "necessaries," to take or destroy property, control essential business, dispense with bidding or other requirements in making purchases, and to powers connected with fiscal controls, employment, and legislation.

Postwar Social Security

Can We Stop a Post-War Depression Now?—Social Security in Wartime and After.—Published by the American Association for Social Security, 22 *E.* 17*th St., New York.* 1942. *viii* + 47 *pp.* 25*c.*

An analysis of the present and probable post-war needs for social security in all its phases, and a recommended program by 68 of the nation's leading experts and students of the problem, with comments by four labor leaders.

In-Service Training

Training Municipal Employees, New York City, 1940-41.—*By John J. Furia, Ph.D., Director of Training, New York City Civil Service Commission, New York.* 1941. 102 *pp., multi.*

A miscellany of material connected with in-service training courses given in New York City: a brief description of the history and set-up of personnel training in this city; an abstract of proceedings of a conference on personnel problems; sample materials from the criminal law enforcement course; and—occupying the major part of the publication—course announcements for 1941-42 and 1940-41.

Housing Economics

Toward More Housing.—Monograph No. 8, *printed for the use of the Temporary National Economic Committee. U. S. Government Printing Office, Washington, D. C.* 1941. *xxi* + 223 *pp.*

To analyze the factors impeding home building, this study has been made as part of the Investigation of Concentration of Power in the United States. The first part, written by Peter A. Stone, Coordinator, Construction Studies, Temporary National Economic Committee, deals with the factors that cause monthly carrying costs of a house to be high. The second part, by Harold Denton, Economic Analyst in Housing, Department of Commerce, investigates the factors which make the capital outlays of housing high.

USHA Bulletin

Public Housing.—*Issued monthly by the United States Housing Authority, Washington, D. C. About* 4 *pp. to* 12 *pp.* 5*c each;* 50*c per year.*

The United States Housing Authority's periodical, *Public Housing,* has been changed from a weekly to a monthly, the first of the new series having been published in October of last year. Each of the four issues which have come out so far covers a particular phase of the Authority's activities. The first, USHA Homes for Young Americans, discusses children in public housing; Four Years of Achievement outlines USHA's history; By and for Labor analyzes labor's place in the USHA program; and the January issue, Locally Owned and Operated, emphasizes the importance of local authorities in the public housing program, listing all of the more than 600 local bodies. Live photographs illustrate the text in all issues, some of which are largely pictorial.

FHA Defense Housing

The Field for Privately Financed Defense Housing.—pp. 3-18, 36-45, *Insured Mortgage Portfolio, Fourth Quarter,* 1941. *Federal Housing Administration, Washington, D. C.*

A review of FHA's part in defense housing, with case histories, descriptions, and illustrations of representative FHA-insured housing in ten important defense areas. Discussions cover the amount, type, and cost of dwellings.

City Engineering Report

Annual Report, Department of Engineering, Syracuse, N. Y., 1941.—*The Department,* 400 *City Hall.* 44 + *xxiii pp., mimeo.*

Well-organized report of the various divisions of the Department of Engineering of Syracuse—the last report of the retiring City Engineer, Nelson F. Pitts.

Public Administration Periodicals

Periodicals Currently Received.—Joint Reference Library, 1313 *E.* 60*th St., Chicago, Ill.* 1941. 46 *pp., mimeo.* 40*c.*

A list of 650 periodicals in public administration and related fields, arranged alphabetically, and with an extensive index by subject and place.

Census Reports

Recent publications received from the Bureau of the Census, Department of Commerce, Washington, D. C.:

Financial Statistics of Cities: 1939.—94-*City Consolidation.*—1941. 14 *pp.*

Descriptive analysis and summary in tabular form, of the combined 1939 expenditures and revenues of the 94 largest cities in the United States, and a comparison of these figures with other years.

State & Local Government Dept: 1941.—17 *pp.*

A descriptive analysis and summary in tabular form, of state, and of local, government debt, of trends in these debts, and their comparison with the federal debt. Tables give debt of individual cities and counties of over 250,000 population.

Population of the Metropolitan Districts of the United States: 1940 *and* 1930.—1941. 7 *pp.*

Figures for 1930 and 1940 for the 135 metropolitan districts in the United States, giving population in the central cities and in the areas outside the central cities, the per cent of city population in the latter, and increases in population between 1930 and 1940. Trends are summarized. Figures are also given for 1940 for the 7 cities which have become metropolitan districts in the 10-year interval.

(*City*) *Proposals Voted Upon:* 1941. 15 *pp.*

A summary of the number of cities voting on different types of measures, and the results of the voting.

Urban Land Problems

The November, 1941, *issue of The Journal of Land & Public Utility Economics, contains two articles of particular interest to readers of* The American City.

Urban Disintegration and the Future of Land Investments.—By Gordon Whitnall, Consultant on Planning, Urban Land Institute. pp. 440-452.

A particularly lucid account of the processes of modern urban disintegration—the forces causing it and their results; decentralization, traffic congestion, the parking problem and attempted solutions; and finally the possibilities for relief, what they will mean for the urban pattern, and the stability of land investments.

Public Land Acquisition in Law and Practice.—By H. R. Briggs and A. R. McGinley, Economists, Agency of Economic Research, Madison, Wis. pp. 452-459.

A brief review of public land acquisition principles, policies and procedures, and the laws under which they have been established.

Planning for Defense

Defense Resources, State of Washington.—Washington State Planning Council, Olympia, Wash. Revised Edition, 1941. 58 *pp., mimeo.*

Washington's resources available for defense, described with brief text, maps, tables, and charts: power, water, land, forests, fisheries agriculture, minerals, manufactures, industries, climate, transportation, population, labor, standard of living factors, taxation, laws affecting industry, and vocational education.

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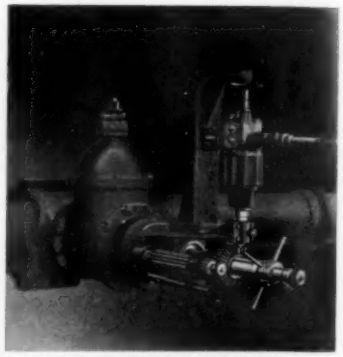

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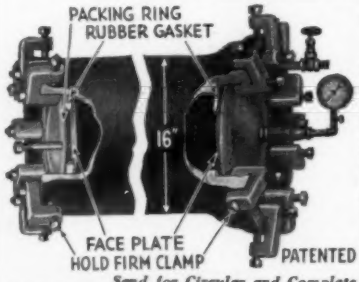

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Recreation Conference

Proceedings of the 26th National Recreation Congress and the Defense Recreation Conference, Baltimore, Md., Sept. 29-Oct. 3, 1941.—National Recreation Association, 315 Fourth Ave., New York. 240 *pp.* $1.00.

Papers and summaries of discussion groups on recreation in the defense program and in the normal community life, covering a broad field, from individual recreation activities like gardening and boys clubs, to the program of the USO and the part of recreation in the national life.

Aid to City Planning

Community Planning in Tennessee—A Progress Report for the Fiscal Year, July 1, 1940-June 30, 1941.—Tennessee State Planning Commission, Nashville, Tenn. 1941. 142 *pp., photo offset.*

How to financially support technical planning staffs is a problem which confronts most small and medium-sized cities. In Tennessee, the State Planning Commission has been conducting an active program of aid to local communities which indicate a desire for it. This publication gives an account of this program in individual cities and counties. Eighty-one pages of the report contain ordinances and resolutions prepared in connection with the program.

New Jersey Planning Report

A Parks and Public Lands Plan and Program for New Jersey.—Report of The Committee on Parks and Public Lands. Prepared for and Approved by The New Jersey State Planning Board, 190 W. State St., Trenton, N. J. 1941. 41 *pp.*

A particularly live report presenting a program for the improvement of New Jersey's recreational facilities and the more advantageous use of the state's water and land resources—including a recommended procedure for land acquisition by the state. Titles of the three main parts are: Inventory and Demand; The Plan and Its Intent; and Program and Procedure.

Roadside Improvement

Roadside Development.—Reports of the Twentieth Annual Meeting by the Committee on Roadside Development, Highway Research Board, National Research Council, Washington, D. C. 1941. 69 *pp., mimeo.*

Presented in this publication are reports of the subcommittees of the Committee on Roadside Development: highway types and roadside areas; right-of-way and roadside control (zoning); erosion; plant ecology; roadside-development economics; education and public relations. Roadside-development trends are reviewed, and material on erosion control is included in the Appendices.

Highway Development.—Bulletin No. 109, *The Engineering Experiment Station, The Ohio State University, Columbus, Ohio.* 1941. 64 *pp.* 60c.

Proceedings of a short course on highway development, held on February 28 and March 1, 1941, at the Ohio State University, with sessions on the public-roads program, the design of highways, roadside planting, and zoning of roadsides.

Boston Housing

Rehousing the Low Income Families of Boston.—Boston Housing Authority, 18 Oliver St., Boston, Mass. 1941. 96 *pp.*

A particularly effective report, with numerous action photographs, maps and diagrams, giving an account of the activities and accomplishments of the Boston Housing Authority from 1936 to 1940. Starting with the legal basis on which public housing is founded, the report describes all the steps in the public housing process—site selection, land acquisition, rehousing, design and construction, tenant selection and management, and financing. An interesting final section reproduces letters from various city officials testifying to the ways in which the new housing has benefited their work.

Municipal Expenditures

Fluctuations in Capital Outlays of Municipalities.—By Harold Wolking. Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce, Washington, D. C. Apply to Supt. of Documents, Washington, D. C. 1941. *v* + 87 *pp.* 15c.

Considering the possibility of stabilizing employment by proper timing of public outlays, this analysis of municipal expenditures for capital or durable goods is one of many studies being made by the Department of Commerce as guides for our future economy. Four chapters cover: the trend of outlays from 1900 to 1937; an appraisal of the importance of municipal capital outlays by comparing them with other capital expenditures, private and public; federal aid to urban areas; and factors influencing the volume of municipal outlays.

Budgeting

Toward Better Budgeting.—Governmental Research Association, 5135 Cass Ave., Detroit, Mich. 1941. 36 *pp., mimeo.*

Papers delivered at sessions on budgeting at the 1940 and 1941 conferences of the Governmental Research Association, on budget shortcomings, in defense of the budget, and suggesting budget improvements, particularly from the standpoint of the citizen.

Accounting

Governmental Accounting Bibliography.—Bulletin No. 13, *National Committee on Municipal Accounting, 1313 E. 60th St., Chicago, Ill. Revised edition,* 1941. 61 *pp.* 50c.

A selected bibliography of books, pamphlets, and articles dealing with accounting and budgeting for states, counties, cities, towns and villages, the Federal Government, and schools, as well as a list of bibliographies on the subject, and of current periodicals in which articles on municipal accounting are published.

Two publications by Irving Tenner, Secretary, Committee on Cost Accounting, Municipal Finance Officers Association of the U. S. and Canada, 1313 E. 60th St., Chicago, Ill.

Work Measurement in the City of Los Angeles Building and Safety Department. 1941. 16 *pp.* 20c.

How Los Angeles established measurement standards for the inspectional work of its Department of Building and Safety, how these standards are used to determine and adjust personnel requirements, prepare and control the Department's budget, and increase departmental efficiency.

Governmental Cost Accounting in the Los Angeles Area. 1941. 20c.

Cost accounting systems in use in the various departments of the city and the county of Los Angeles, and in suburban Pasadena.

City Ordinances

Received from Frederick Rex, Librarian, Municipal Reference Library, 1005 City Hall, Chicago, Ill., chapters of the Municipal Code of Chicago, revised and edited by Barnet Hodes, Corporation Counsel:

Chapters of the Municipal Code of Chicago Relating to Buildings. 1941. 421 *pp.* 54c.

Chapters 13 through 46 of this ordinance discuss general aspects of building regulations—their enforcement, building definitions and classifications, standards and tests, registration, permits, certificates, plans, and inspection. Chapters 47 through 89 present requirements for different types of structures and construction units.

Chapters of the Municipal Code of Chicago Relating to Plumbing, with Amendments to July 1, 1941. 42 *pp.* 11½c.

Main sections of the plumbing provisions cover: general provisions; regulations; materials; house drains and sewers; roof, storm water, and seepage drains; soil, waste, and vent pipes; catch basins, traps, and cleanouts; plumbing fixtures; joints, connections, and fittings; inspection test of plumbing and drainage systems; and violation of chapter provisions.

Assessment

Assessment Organization and Personnel.—By James W. Martin, Director, Bureau of Business Research, University of Kentucky. An address before the Ohio Association of County Auditors, Dec. 3, 1941. Apply to Ohio Board of Tax Appeals, Columbus, Ohio. 7 *pp., mimeo.*

Reflecting the official view of the National Association of Assessing Officers, this paper outlines points to be considered in the internal organization of the local assessment office, and the management of office personnel.

Papers Presented at the Northeastern Regional Conference on Assessment Administration, New York City, July 17 and 18, 1941.—National Association of Assessing Officers, 1313 E. 60th St., Chicago, Ill. *vi* + 72 *pp., mimeo.* $1.00.

The following subjects are covered in talks published here: assessment review; FHA appraisal techniques; the defense program; HOLC policies; in-service training; press relations; and round tables of various current appraisal problems.

Papers Presented at the Eighth National Conference on Assessment Administration, Held at Jacksonville, Fla., Oct. 20 to 23, 1941.—National Association of Assessing Officers, 1313 E. 60th St., Chicago, Ill. 78 *pp.*

Papers, summaries of round-table discussions, and reports of officers, presented at the annual conference on assessment administration. Among the subjects which were taken up in talks were the assessment of defense industries, values in blighted districts, the assessment of leased property and of electric tabulating equipment.

Manual for Texas Assessors.—By Aldra Jenks. The Bureau of Municipal Research of The University of Texas, in cooperation with the State Board of Vocational Education. The University of Texas Press, Austin, Texas. 1941. 232 *pp.*

Following studies of assessing problems in Texas, and partly as the outcome of a program of in-service training for assessing officers of the state, this manual of rules and formulae for the assessment procedure has been prepared. Not intended to take the place of a building-appraisal manual, it is written for the non-professional appraiser, particularly in the small community.

Special Assessments in Wisconsin.—Issued by the League of Wisconsin Municipalities, 30 E. Johnson St., Madison, Wis. 1942. xiii + 86 *pp.* $1.00.

A manual of procedures and forms for cities and villages, for all types of public improvements.

Legislative Research Reports

Two reports put out by the Research Department, Illinois Legislative Council, Springfield, Ill., containing factual information on:

State Regulation of the Sale of Milk.—1941. 29 *pp., mimeo.*

Existing and Proposed Strip-Mining Legislation in the States.—1941. 19 *pp., mimeo.*

Library Study

The Southern Negro and the Public Library.—By Eliza Atkins Gleason. The University of Chicago Press, Chicago, Ill. 1941. *xvi* + 218 *pp.* $2.50 *from* THE AMERICAN CITY.

Of the 774 southern communities which provided library service to their residents in 1939, only 99 offered service to Negroes. This is a study of public library service available to Negroes in 1939 in these 99 communities. Not attempting to investigate the size and nature of book collections involved, the study examines the following factors of free-library service to Negroes,—its legal basis, governmental and internal organization and administration, costs, geography, the Negro population served, and the services rendered by schools and colleges.

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Municipal Government Text

Municipal Affairs.—By Ernest W. Steel, Agricultural and Mechanical College of Texas. International Textbook Co., Scranton, Pa. 1941. 563 pp. **$3.50** *from* THE AMERICAN CITY.

The first five chapters of this text on city government cover the problems of the city, the city and the state, forms of municipal government, popular control, and principles of administration. The other eighteen chapters discuss the various functions of city administration. It is unfortunate that the bibliographies at the end of the chapters of the book do not list more of the up-to-date publications in the field and fail to indicate that some of them listed have since been issued in revised form.

Other Reports Received

BERGEN COUNTY, N. J.—Annual Report of Progress, 1941. County Planning Board, Hackensack, County of Bergen, N. J. 18 pp., mimeo.

CHICAGO, ILL.—Facing the Future with the Chicago Plan Commission, 20 N. Wacker Drive. 1941. 16 pp.
—Annual Report, and A History of Seven Years, 1934-1941, Chicago Recreation Commission. 40 pp.

CLEARWATER, FLA.—Annual Report, 1941. 112 pp., mimeo.

DETROIT, MICH.—A Capital Improvement Program Covering Six Years and a Reserve, 1942-1948. 1942. 83 pp., mimeo.

HARTFORD, CONN.—Second Annual Report, 1940-41. The Housing Authority. 14 pp.

NEW YORK, N. Y.—Annual Report, Committee on Housing, 1940-41. Community Service Society, 105 E. 22nd St. 38 pp., mimeo.

PITTSBURGH, PA.—Civic Pittsburgh—Facts and Figures about Your Business. 1941. 28 pp.

Keep Fire in Its Place!—A Bibliography on Fire Defense. Insurance Library of Chicago, 175 W. Jackson Blvd., Chicago, Ill. 7 pp., mimeo.

Staggered Hours—A summary of experience with staggering of working hours as a means of relieving traffic congestion and overburdening of transit facilities. Transportation and Communication Department, Chamber of Commerce of the United States, Washington, D. C. 1941. 14 pp.

Conventions—When and Where

February 16-18.—Indianapolis, Ind.
ASSOCIATED GENERAL CONTRACTORS OF AMERICA, INC. M'ng. Dir., H. E. Foreman, 222 Munsey Bldg., Washington, D. C.

February 18-20.—Ann Arbor, Mich.
CONFERENCE ON HIGHWAY ENGINEERING. (Michigan Union.) R. L. Morrison, Sec., Univ. of Michigan, Ann Arbor, Mich.

February 24-27.—Wichita, Kans.
SOUTHWEST ROAD SHOW AND SCHOOL. (Municipal Exposition Bldg.) F. G. Wieland, Mgr., 225 S. Water St., Wichita, Kans.

February 21-26.—San Francisco, Calif.
AMERICAN ASSOCIATION OF SCHOOL ADMINISTRATORS. Sec., S. D. Shankland, 1201 16th St., N. W., Washington, D. C.

February 25-27.—Philadelphia, Pa.
ASSOCIATION OF HIGHWAY OFFICIALS OF NORTH ATLANTIC STATES. (Benjamin Franklin Hotel.) Sec.-Treas., A. Lee Grover, State Highway Dept., Trenton, N. J.

March 2-4.—Memphis, Tenn.
AMERICAN ROAD BUILDERS' ASSOCIATION. (Peabody Hotel.) Engr.-Dir., Charles M. Upham, 952 International Bldg., Washington, D. C.

March 5-6.—Trenton, N. J.
NEW JERSEY SEWAGE WORKS ASSOCIATION. (Stacy-Trent Hotel.) Sec., John R. Downes, Plainfield, N. J.

April 9-10.—Lafayette, Ind.
AMERICAN WATER WORKS ASSOCIATION—INDIANA SECTION. (Purdue Memorial Bldg.) Sec., H. G. Horstman, 603 Traction Terminal Bldg., Indianapolis, Ind.

April 14-16.—St. Louis, Mo.
MISSOURI ASSOCIATION OF PUBLIC UTILITIES. (Jefferson Hotel.) Asst. Sec., Jesse Blythe, 101 W. High St., Jefferson City, Mo.

April 15-17.—Niagara Falls, Ont.
AMERICAN WATER WORKS ASSOCIATION—CANADIAN SECTION. (General Brock Hotel.) Sec., Dr. A. E. Berry, Ontario Dept. of Health, Parliament Bldg., Toronto, Ont.

April 20-22.—Savannah, Ga.
AMERICAN WATER WORKS ASSOCIATION—SOUTHEASTERN SECTION. Sec., B. P. Rice, Reconstruction Finance Corp., Healey Bldg., Atlanta, Ga.

April 27-30.—Washington, D. C.
CHAMBER OF COMMERCE OF THE UNITED STATES. Sec., Ralph Bradford, 1615 H St., N. W., Washington, D. C.

April 30-May 1.—Niagara Falls, N. Y.
AMERICAN WATER WORKS ASSOCIATION—NEW YORK SECTION. Spring meeting. Sec.-Treas., R. K. Blanchard, 50 W. 50th St., New York.

May 7-9.—Walla Walla, Wash.
AMERICAN WATER WORKS ASSOCIATION—PACIFIC NORTHWEST SECTION. (Marcus Whitman Hotel.) Sec., Fred Merryfield, Oregon State College, Corvallis, Ore.

May 13-16.—Toledo, Ohio.
AMERICAN WATER WORKS ASSOCIATION—OHIO SECTION. Sec., T. R. Lathrop, State Dept. of Health, Columbus, Ohio.

May 17-20.—Cleveland, Ohio.
SMOKE PREVENTION ASSOCIATION. Sec., Frank A. Chambers, City Hall Square Bldg., Chicago, Ill.

***May 18-21.—Pittsburgh, Pa.**
BUILDING OFFICIALS' CONFERENCE OF AMERICA. (Hotel Schenley.) Sec.-Treas., Arthur N. Rutherford, Building Inspector, West Hartford, Conn.

May 20-23.—Hollywood, Calif.
NATIONAL ASSOCIATION OF COUNTY OFFICIALS. Sec.-Treas., George F. Breitbach, Court-House, Milwaukee, Wis.

May 24-27.—Philadelphia, Pa.
PENNSYLVANIA STATE ASSOCIATION OF TOWNSHIP COMMISSIONERS. (Benjamin Franklin Hotel.) Sec.-Treas., H. A. Fritschman, Upper Darby, Pa.

May 25-27.—Indianapolis, Ind.
NATIONAL CONFERENCE ON PLANNING. Joint annual conference of American Society of Planners, the American Planning and Civic Association and the National Planning Association. Conference Dir., Walter H. Blucher, 1313 E. 60th St., Chicago, Ill.

***June-Syracuse, N. Y. (Date later.)**
CONFERENCE OF MAYORS AND OTHER MUNICIPAL OFFICIALS OF THE STATE OF NEW YORK. Exec. Sec., William P. Capes, City Hall, Albany, N. Y.

June 10-13.—Los Angeles, Calif.
NATIONAL ASSOCIATION OF HOUSING OFFICIALS. (Biltmore Hotel.) Dir., Coleman Woodbury, 1313 E. 60th St., Chicago, Ill.

June 21-25.—Chicago, Ill.
AMERICAN WATER WORKS ASSOCIATION. (Stevens Hotel.) Sec., Harry E. Jordan, 22 E. 40th St., New York.

***June 22-25.—Buffalo, N. Y.**
MUNICIPAL FINANCE OFFICERS' ASSOCIATION OF THE UNITED STATES AND CANADA. Exec. Sec., Carl H. Chatters, 1313 E. 60th St., Chicago, Ill.

***June 23-27.—Reading, Pa.**
EASTERN ASSOCIATION OF FIRE CHIEFS. (Berkshire Hotel.) Sec., Charles E. Clark, Box 217, Wayne, Pa.

June 28-July 2.—Denver, Colo.
NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES. Exec. Sec., Willard E. Givens, 1201 16th St., N. W., Washington, D. C.

August 24-26.—State College, Pa.
PENNSYLVANIA WATER WORKS OPERATORS' ASSOCIATION. Sec.-Treas., I. M. Glace, 22 S. 22nd St., Harrisburg, Pa.

***Sept. 9-11.—Traverse City, Mich.**
AMERICAN WATER WORKS ASSOCIATION—MICHIGAN SECTION. (Park Place Hotel.) Sec., M. N. Gerardy, Water Board Bldg., Detroit, Mich.

***Sept. 15-18.—Poland Spring, Maine.**
NEW ENGLAND WATER WORKS ASSOCIATION. (Poland Spring House.) Sec., Frank J. Gifford, 613 Statler Bldg., Boston, Mass.

October 2-4.—Chicago, Ill.
INSTITUTE OF TRAFFIC ENGINEERS. (Hotel Stevens.) Sec.-Treas., W. Graham Cole, 60 John St., New York.

***Oct. 11-15.—Richmond, Va. (Tentative.)**
LEAGUE OF VIRGINIA MUNICIPALITIES. (John Marshall Hotel.) Exec. Sec., Harold I. Baumes, 902 Travelers Bldg., Richmond, Va.

***Oct. 12-14.—Cleveland, Ohio. (Tentative.)**
AMERICAN PUBLIC WORKS ASSOCIATION. Exec. Dir., Norman Hebden, 1313 E. 60th St., Chicago, Ill.

***October. 12-15.—(Place later.)**
AMERICAN WATER WORKS ASSOCIATION—Southwest Section. Sec., Lewis A. Quigley, 3320 W. Berry St., Fort Worth, Texas.

October 13-17.—Cleveland, Ohio.
FEDERATION OF SEWAGE WORKS ASSOCIATIONS. (Statler Hotel.) Exec. Sec., W. H. Wisely, Box 18, Urbana, Ill.

* *First appearance of notice on this page.*

Single-Acting Semi-Throttling Altitude Valve

Installed in upstream line to tanks, standpipes or reservoirs, this valve sensitively maintains any desired water level to prevent overflow.

The valve is semi-throttling by gradually closing as water approaches the maximum water level to be controlled. The valve is self-contained without any waste of water from above the valve piston, and is especially desirable for service where a low head is to be maintained against a higher influent pressure.

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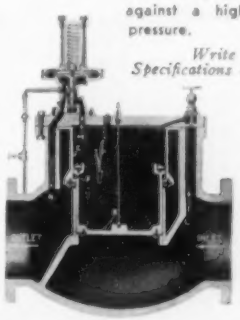

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places new responsibilities on local government

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provides the opportunity to analyze and control growing costs

Hundreds of communities are finding it difficult to bear the additional expenses and responsibilities imposed upon them by expanded local industries or other defense activities.

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For many years Burroughs has made an intensive study of municipal accounting—has developed many new and modern machines and methods for handling today's municipal problems in less time, with less effort, at less expense. For complete information, get in touch with your local Burroughs office. Or, if you prefer, write to—

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News and Illustrations

Items of Interest to City, Town and County Officials, and Others Concerned with the Economical Construction and Efficient Operation of Public Improvement Undertakings

Quick Chlorination for Emergency Service

Emergencies are being introduced by defense and armament problems today so quickly that those in charge of water supplies are frequently hard-put to provide the solution as fast as new occasions arise. Quick chlorination is a question into which has been introduced this last year one new problem after another calling for quick decisions. Proportioneers Inc., 9 Codding St., Providence, R. I., state five requirements which they consider chlorinators must have in order to meet these emergencies: (1) light weight for portability; (2) low priced for non-permanent emergencies; (3) adaptable for changing emergency conditions; (4) weatherproof, fool-proof, and dependable; (5) simple to operate even under variable installation requirements.

The emergency line of Proportioneers equipment ranges from stock items such as small chemical feeders up to large complete water-purification and pumping units known as Pur-O-Pumpers, or to automobile-drawn, trailer-type "Blitz Buggies" which are tailor-made and built to order for meeting the dozens of crises which a water works may have to meet in the future, complicated by sabotage, bombing, and other by-products of war.

Officials particularly interested in emergency equipment may secure a copy of "Emergency Equipment for Sterilization and its Application," a reprint from a paper presented before the Defense Training School for water-works operators, published by the Maine Water Utilities Association. Other bulletins and reprints are also available from Proportioneers and will be sent immediately on request to those mentioning this item.

Expansion Joints for Construction Work

Water-tight expansion joints are essential for concrete pavements, dams, swimming pools, basement walls and floors, and in fact in any concrete construction where the entrance of water is a detriment. The Servicised Products Corp., 6051 W. 65th St., Chicago, Ill., makes Waterstop Expansion Joint designed particularly to keep out water. Other expansion joints by Servicised are available in asphalt, fibre, cork, cork rubber, sponge rubber, self-expansion cork, and Para-Plastic compound. Complete information regarding any or all of these types of joints may be obtained direct from Servicised by mentioning this item.

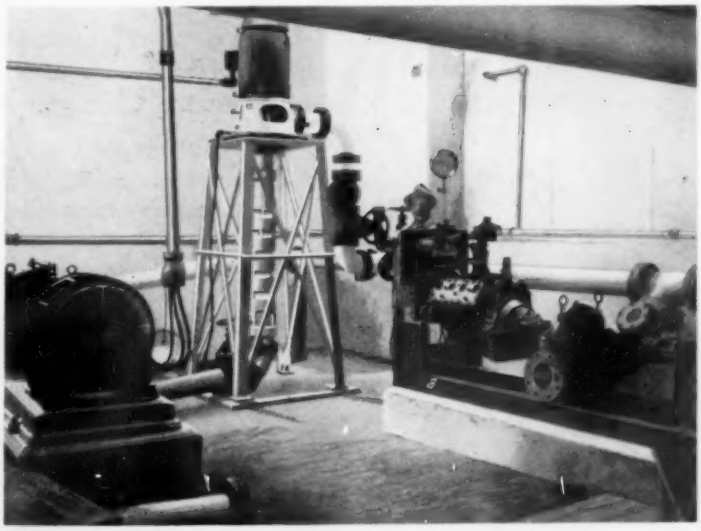
Handy Conversion Charts for Water-Works Men

Whether it be a question of everyday operation or an emergency, a table or chart of conversion factors is very handy for any water-works operating man. For some time, R. W. Sparling, Box 3277 Terminal Annex, Los Angeles, Calif., has distributed blotters with various charts of water equivalents which have proved exceedingly valuable in the making of quick estimates in water-works operations. These three charts covering, in the first, weight, power, and volume, in the second, rate of flow, and in the third, velocity in different pipes, have now been assembled in a single folder under the title "Tables of Water Equivalents." They are printed on cardboard, which can be carried in the pocket, thumbtacked onto the wall, or put under glass on your desk.

Copies of these tables will be furnished free and without obligation to any water-works operating personnel or officials, if they will just write to R. W. Sparling at the address given above.

Raisch Made Consultant to Boro of Queens, N. Y. C.

On January 1, 1942, William Raisch, well-known New York City Consulting Engineer in the municipal field, became Chief Engineer of the Borough of Queens, City of New York, with the title, Consulting Engineer. While this new work will engage all of Mr. Raisch's time, his organization will continue his consulting practice in water supply, sewage treatment, and the incineration of municipal refuse.



The Mountain States Water Co. of Buckhannon, W. Va., requiring additional plant space for filtration equipment, installed a 30-hp Pomona pump on a pedestal, tied it into the existing piping, replacing a 50-hp horizontal pump at a saving of $55 per month on an investment of only $950.

JEFFREY

SEWAGE AND WATER TREATMENT PLANT EQUIPMENT.. FOR VICTORY PROJECTS

Bar screens
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Speed up your "All-Out" Victory Effort

Since the treacherous attack on Pearl Harbor, city and county Defense Councils all over the country have had only one watchword—*speed.*

That's why more and more council chairmen and committeemen are turning to Mimeograph equipment for the help they need in doing a big job well—and doing it fast.

Mimeograph duplicators and their integrated stencil sheets and inks get information out to many people quickly. At speeds up to 150 copies a minute, they turn out clean-cut copies—in black-and-white or in color—of bulletins, forms, maps, warnings. They produce instruction manuals needed for the instruction of air raid wardens and vocational training programs . . . publicity . . . other material so important in stimulating the community to full cooperation with the council's efforts.

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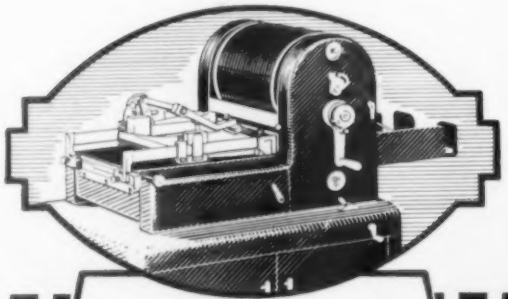

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A Baker bulldozer on an A-C model HD-10 tractor working on the 19th and South Wolcott Avenue Dump, Chicago, Ill.

Tractor and Bulldozer Used on Chicago Dump

Municipal street departments are finding bulldozers useful in many phases of their work. Among these uses are the leveling of city dumps. The accompanying illustration shows one of the group of four Model 336-A Baker bulldozers mounted on HD-10 Allis-Chalmers tractors sold to the city of Chicago by R. C. Larkin Co., 3001 South Wabash Avenue, Chicago, Ill., equipment distributors.

At the 19th and South Wolcott Avenue dump the collection trucks start rolling in about eight o'clock in the morning and from the arrival of the first one until the deposit of the last load has been leveled, the bulldozer is busy. This yard receives the loads from 12 to 16 large conveyor trucks at from 6 to 8 single trucks. The big vans carry up to 18 cubic yards, and the single trucks about half as much or 9 yards. Figuring an average of between 4 and 5 trips a day per truck, the amount of material delivered to the dump is between 1,500 and 2,000 yards per day which is leveled off during the same working day. Baker bulldozers are a product of the Baker Manufacturing Co., 585 Stanford Avenue, Springfield, Ill., and the A-C tractors are made by the Tractor Division, Allis-Chalmers Mfg. Co., Milwaukee, Wisc.

Emergency Preparations by Wallace & Tiernan

Most manufacturers of equipment vital to water supply and other essential municipal utilities are taking steps to provide emergency repair parts to municipalities in the event of disaster resulting from sabotage, direct attack, or from flood, fire, or storm. Among the leaders in this effort to insure spare parts and emergency equipment is Wallace & Tiernan Co., Inc., Newark, N. J., manufacturer of chlorine control equipment for sterilizing water. The entire W&T field staff has been organized on a 24-hour basis, ready for call to any emergency where their expert services may be needed. Each water-works plant should have in its files duplicate copies of lists of service men of all manufacturers who can be called upon to assist the water-works staff in the event of difficulties.

In addition to furnishing such lists to water-works officials, Wallace & Tiernan has added to its well-known technical publications three emergency bulletins: No. 178, on the W&T Hypochlorinator; No. 226, on the W&T portable main sterilizer for main sterilization and emergency chlorination; and No. 228, on the W&T emergency chlorination trailer. Copies of these bulletins, and any advice desired on emergency operations, may be secured direct from Wallace & Tiernan.

Harding Appointed County Commissioner

James C. Harding, who has specialized in municipal engineering for the past twenty-two years, with offices in New York City and Mount Kisco, N. Y., has been appointed Commissioner of Public Works for Westchester County, N. Y. Mr. Harding gained his early experience in municipal engineering with the firm of Fuller & McClintock, consulting engineers of New York City from 1918 to 1927. On the latter date, with his father, he opened engineering offices in New York City, and since the death of his father, later in 1927, he has continued in private practice with offices in New York and Mount Kisco.

Mr. Harding holds professional engineer's licenses in New York, Connecticut, and New Jersey and is a member of the following technical organizations: New York Sewage Works Association, New Jersey Sewage Works Association, American Water Works Association, New England Water Works Association, American Society of Civil Engineers, New York State Society of Professional Engineers, New Jersey Society of Professional Engineers, and Society of American Military Engineers. He has contributed frequently to the various technical publications.

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STEEL STORAGE TANKS
For safe, low-cost storage of acids, caustics, oil, water, tar, molasses and other liquids. Welded or riveted construction, full-weight material, careful craftsmanship in erection, *guaranteed satisfaction* in performance are dependable P-DM advantages. Write for descriptive Bulletin No. 502.

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KEEP ON TOP---
---OF CURRENT MUNICIPAL OPERATIONS

As American industry pushes forward, gearing up on every hand to fill ever bigger orders and to meet urgent delivery dates, added responsibilities are placed on municipalities . . . responsibilities which call for application of the best possible methods in order to keep on top of current operations and make well-founded plans for the future.

Behind this increased activity in both industry and government stand the machines of administration; the machines which provide the facts necessary to adequate public service.

International Business Machines lend great speed to municipal accounting and furnish administrators with essential, accurate and up-to-the-minute operating reports with which they may carry on most effectively under today's accelerated pace.

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Whatever may be your local municipal accounting problem, it will be to your benefit to investigate IBM methods. Call the IBM office in your vicinity or write to World Headquarters, 590 Madison Avenue, New York, N. Y.

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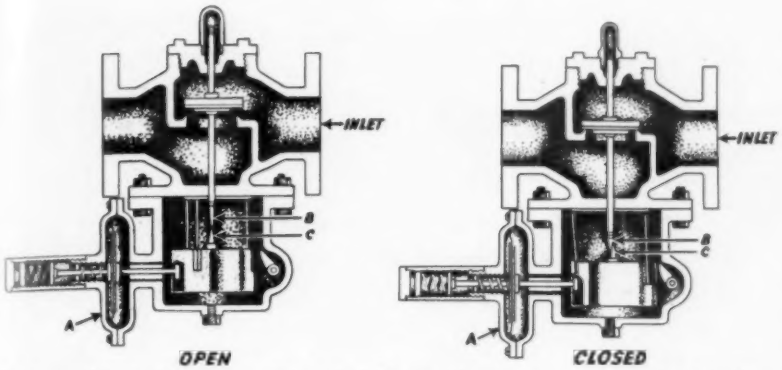


Sections of the Sentinel automatic gas shut-off valve showing the open and closed positions

An Automatic Valve to Shut Off Gas Mains

An automotive shut-off valve for gas lines in city streets, at large industrial plants, and in other closely built-up sections has been developed so as to operate in one-fifth of a second when anything goes wrong. This Sentinel automatic valve was first manufactured four years ago and operates on a simple pendulum principle to shut off the gas supply in case of damaging shock from an earthquake or other explosion. This first automatic earthquake valve was also equipped with a manual shut-off to be used in case of fire or hazard from other causes. Since last March a new pressure-control feature has been added to provide an automatic shut-off under other circumstances, such as gas line breaks, sabotage, tampering, dangerously high or low gas pressure, or direct contact with fire itself.

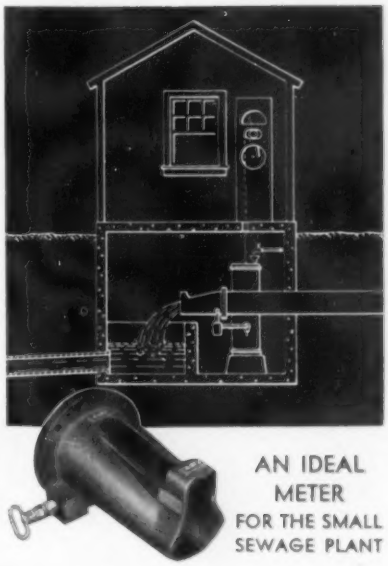
In case of sabotage, tampering, or broken gas lines, which vary the gas pressure from a predetermined setting, the diaphragm "A" moves the plunger in or out to shut off the valve. In case of damaging earthquakes or air-raid explosions, points "B" and "C" are unseated by the lateral movement of the tri-filar pendulum. Several fusible parts provide added protection against direct fire. After operation, the valve may be reset manually. Other valves for smaller gas lines and for large mains are constructed on slightly different principles to fit various needs by Security Valve Corp., 548 South Spring St., Los Angeles, Calif. All Los Angeles schools, some hospitals, many public buildings, and war plants have been equipped with these automatic valves. Complete information, including costs, may be secured by writing direct to the manufacturer.

Anchoring a New Face to a Retaining Wall

About 35 or 40 years ago, when automobiles were just beginning to be used extensively, the city of Pittsburgh, Pa., in an attempt to shorten the distance from downtown Pittsburgh to the residential East End, built a fine boulevard cut out of the sides of the high, rocky cliff that overlooked the Pennsylvania Railroad tracks below. For greater strength and the protection of those using this drive, concrete retaining walls were built both below and above the driveway. The walls, subjected to all types of weather during this interval—to the too-rapid rush of water down the sides of the cliff, to falling and loosening rocks, and to landslides—began to require renovation.

After a careful study, it was decided by the City to reface the entire wall with cut stone. The question of how to anchor this new facing securely and economically was considered; and then the method used on the Liberty Tubes job by Allegheny County, in which 5/8-inch and 3/4-inch Rawl-Anchors were used, was examined. These anchors, made by the Rawlplug Co., Inc., 98 Lafayette St., New York City, were used to hold the 4-inch angle-iron, through which rods were passed in place. The tests made by the County on this job were so satisfactory that the City decided to anchor the new cut-stone facing to the retaining wall by similar methods. Accordingly, a framework was made up of 4-inch angle-iron, through which 1/2-inch diameter steel rods were passed. The angle-iron was secured by drilling holes every 5 feet in the retaining wall and inserting 5/8-inch and 3/4-inch Rawl-Anchors. They were securely caulked in place, and then the cut stone was hoisted into position and the rest of the job securely cemented and anchored into place, creating a new retaining wall which would be safe and lasting. Full information on the use of Rawl-Anchors and Rawlplugs in many fields is described in Rawl literature.

Attaching a new cut-stone face to a Pittsburgh, Pa., concrete wall



AN IDEAL METER FOR THE SMALL SEWAGE PLANT

BUILDERS — Kennison Nozzle
for open flow

Simple, economical, accurate and trouble-free, the Kennison Nozzle measures raw sewage, sludge or effluent.

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BUILDERS-PROVIDENCE, INC.
(*Division of Builders Iron Foundry*)
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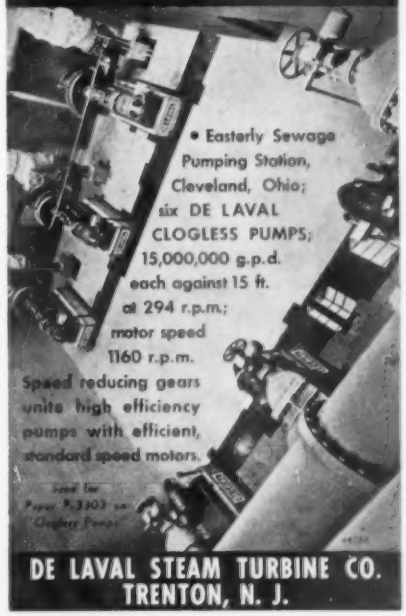
DE LAVAL *Clogless* PUMPS



• Easterly Sewage Pumping Station, Cleveland, Ohio; six DE LAVAL CLOGLESS PUMPS; 15,000,000 g.p.d. each against 15 ft. at 294 r.p.m.; motor speed 1160 r.p.m. Speed reducing gears unite high efficiency pumps with efficient, standard speed motors.

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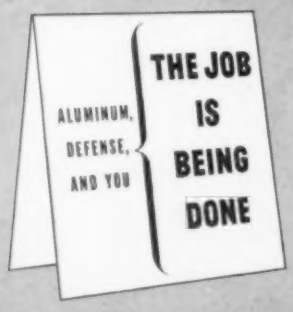
THERE IS NO PRIORITY ON IMAGINEERING



EVERY INDUSTRY, every responsible man in industry, has the present duty of answering two questions.

FIRST ONE IS: Are we, am I personally, doing everything within my power for the war? Our answer here at Alcoa is a plain, unqualified, yes.

NEXT QUESTION IS: What are we doing about the day when we will all need business, which is the polite way of saying, when millions of jobs will be needed for the boys who come back, and for the boys who stayed back to make the weapons.

IMAGINEERING, you know, is the word we have coined to define what we business people have all got to do about the future; about the products we are going to make and the services we are going to be able to offer when this war is over. Imagineering is imagination plus engineering.

HOW DO YOU DO IT? One way would be to figure out, now, how to take advantage of all the aluminum that is going to be available.

QUICKEST WAY TO GET AT IT is to take one of your products or a piece of equipment that "just couldn't" be made of aluminum, and ask yourself, Why not?

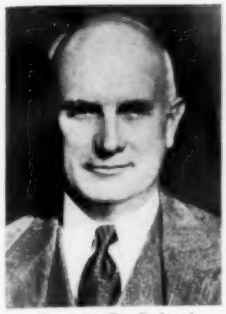
MEANING, OF COURSE, why not light; why not stronger for the same weight; why not resistant to corrosion, and so on, ad infinitum. The first man in any line of business who calls tradition a liar, and things-as-they-are a millstone, is the man who is going places; the man who is going to make peacetime pay rolls.

THAT'S IMAGINEERING AT WORK. We've got some ideas here at Alcoa. We're trying to pass them out. We are looking for men who have made themselves receptive by doing some solid Imagineering on their own hook, in their own fields.

Aluminum Company of America, 2172 Gulf Building, Pittsburgh, Pennsylvania.

ALCOA ALUMINUM

ALCOA



George B. Beitzel

Pennsylvania Salt Official Promoted to Vice-President

George B. Beitzel of Pennsylvania Salt Mfg. Co., Philadelphia, Pa., has been promoted from Manager of Sales to Vice-President in charge of sales. Mr. Beitzel was educated in the public schools of Philadelphia and the University of Pennsylvania, served his country in the First World War, advancing from private to first lieutenant. After the war he spent a number of years with John T. Lewis & Bros. Co., paint manufacturers, and twelve years ago joined the staff of the Pennsylvania Salt Mfg. Co. He is now President of the Sales Managers' Association of Philadelphia. His special part in the production of chlorine and chlorine products in water purification has been the introduction of a super-test hypochlorite now widely used in water and sewage treatment and in swimming pool sanitation.

How To Save Rubber for Use in War

By following a few simple rules during the wartime emergency, every municipal department and individual can extend the life of every type of equipment made of rubber or in which rubber is used. This will add to the nation's supply of this vital product, according to a recent statement of W. H. Cobb, general manager, Mechanical Goods Division, United States Rubber Co., New York City. Orders issued by the OPA on rationing tire sales have emphasized the need for conserving every possible ounce of rubber for war uses. Every time a plant or individual saves 13¼ ounces, for instance, another gas mask is made possible.

"Certain general rules can be applied to all goods made of rubber," states Mr. Cobb. "Among the greatest enemies of rubber are oil, grease, and gasoline. These are all very destructive, and rubber products should be kept away from them as completely as possible. The life of a conveyor belt, for example, is often cut short by destructive operations such as unnecessary abrasion, misalignment, uncushioned impact, as well as all drippings. Also, rubber goods should be stored in a cool, dry atmosphere and kept away from direct sunlight and high temperatures.

"Never place rubber in enclosed generator rooms or near electric motors. If the air around these contains even a minute quantity of ozone, which is created by these machines, it will have an extremely oxidizing effect on hose, belting, packing, and other mechanical rubber products, aging them to an abnormal degree. The actinic rays of the sun are harmful to all rubber goods, except some types of synthetics. The effect is to deaden the resiliency of the rubber, burning it almost like sun burns human skin which in time results in a charred, cracked surface.

"Excessive heat will also harden and crack the rubber and seriously affect the service life of a product manufactured from it. Therefore, avoid steam pipes and boiler rooms. Rubber products should never be hung on nails, hooks, across boards, or any objects that might cause them to bend sharply or which might place a strain at any one point. Hose, wire, and belting under permanent strain are subject to deformations which may cause them to crack or to break when under pressure. This applies to all grades of products from the highest to the lowest."

"It is a dangerous practice to 'borrow' or substitute one type of rubber product for purposes other than those for which it is specifically recommended, even though the particular article may seem able to take it. Destructive action or unwarranted strain often take place which may result in premature failure. In other words, the product should be chosen in consultation with an expert for the specific service for which it is intended."

CARSON CLAMPS
And Mechanical Joints
STOP LEAKS

Glands and bolts made of corrosion-resistant charcoal (pearlitic) cast iron—last as long as cast iron pipe. Bell clamps and mechanical-joint. Glands accommodate variations in pipe dimensions, insure uniform compression of rubber gasket.

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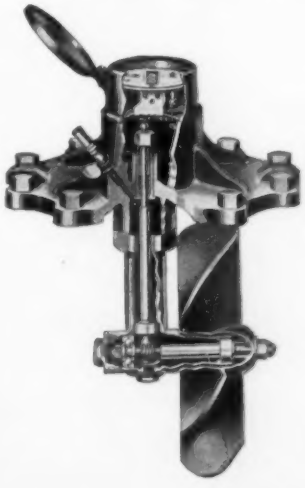
MAIN LINE
WATER METERS



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DIRECT ACTION
METER

IT takes less than a minute to understand the action of a Sparling Main-Line Meter. The "works" are all shown at left!

Follow the direct action from propeller to totalizer. Indicating and recording instruments are optional equipment.

Bulletin 307 will be sent upon request

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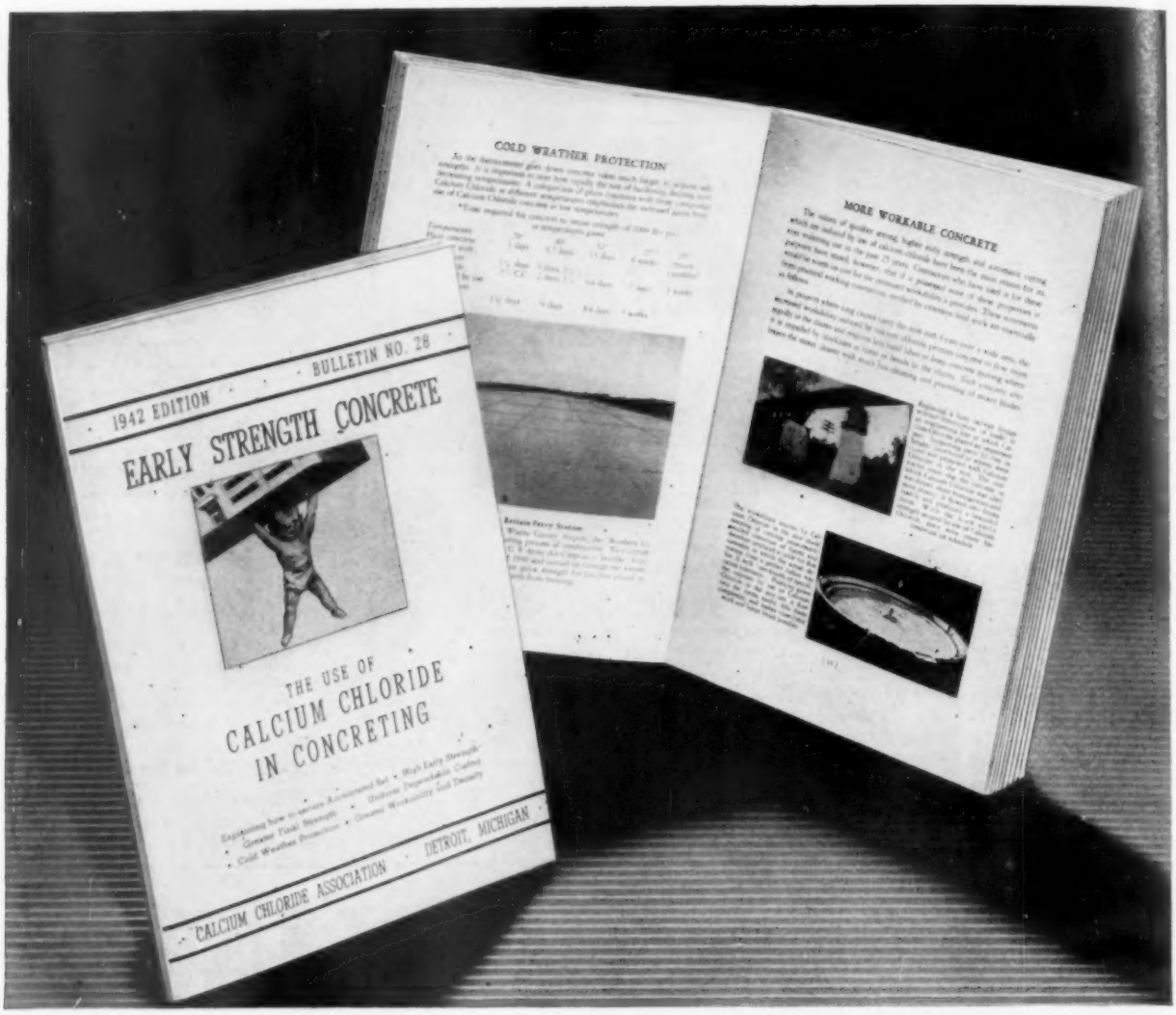

NEW BOOK ON CONCRETING!

Sixty-four pages of latest data helps you speed up cold weather concrete work. This new concreting manual explains cold weather protection — shows how to secure high early strength and greater workability. It gives latest data from the National Bureau of Standards on the effects of low temperatures and shows how to offset the retarding action of cold weather.

Sixty charts, graphs, photos and tables explain methods in detail. The book contains authoritative research papers and many examples of actual practical concreting operations. It discusses large jobs, small jobs and concrete products. Its many fine chapters will help you in your daily work.

Every man who works with concrete should have this book. Send coupon today for your free copy.

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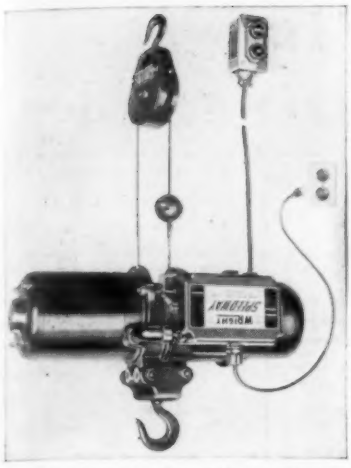

The New Speedway Electric Hoist

Compact Electric Hoist for Handling Chemicals

A new light-weight compact wire rope electric hoist, obtainable in capacities from 250 up to 1,000 pounds, has been added to the line of the Wright Mfg. Div. of the American Chain & Cable Co., Inc., of Bridgeport, Conn. This Speedway hoist is portable, flexible, and all parts are easily accessible. It can be put to work anywhere by just suspending it and plugging in to the lighting circuit.

The special features of Speedway construction include push-button control, weather-proof, acid-proof, dust-proof, preformed hoisting cable on the drum winding to eliminate slack chain-fouling loads, safety limit switches, and safety load blocks. It is furnished for lug, hook, or trolley suspension, and can be mounted parallel or crosswise to a runway beam when used with a trolley. It is furnished for 110 or 220-volt, single-phase 60-cycle current, and also for 220 or 440-volt, 3-phase, 60-cycle current. It is particularly adaptable for installation in water works or sewage-treatment plants for handling bags of chemicals or for moving standard chlorine cylinders. Full details may be secured by writing direct to the Wright Mfg. Div., American Chain & Cable Co., Inc., York, Pa.

New Varec Foundry in Full Production

The furnaces of the new Varec foundry are now in full operation following the recent dedication ceremonies. In direct line wit hthe expansion program initiated by Frank V. Long, president of The Vapor Recovery Systems Co., Compton, Calif., manufacturers of sewage-gas control and safety devices, the foundry is the fifth integral unit to be added in recent months. The warehouse, enlarged machine shop, welding and shipping units were completed early in October. All Varec products are now manufactured under one roof.

New Officers Elected by Allis-Chalmers

At a recent meeting of the Board of Directors of Allis-Chalmers Mfg. Co., Milwaukee, Wisconsin, Max W. Babb, President of the Company, was elected Chairman of the Board of Directors, and W. C. Buchanan, a director and member of the Executive Committee, was elected to succeed Mr. Babb as Company President.

American Road Builders Mobilize at Memphis

The road builders of America will mobilize in Memphis, Tenn., March 2, 3, 4, and 5, at the Defense Highway Congress of the American Road Builders' Association. With "Roads to Victory" as the theme note, congress sessions will designate the role that every member of the highway industry and profession is expected to play in Uncle Sam's war effort. The Peabody Hotel will be headquarters.

A recently released victory pledge made public by the A. R. B. A. executive committed states, "Road builders are at war. Our Number One job is victory. To the all-out cause of Uncle Sam—we pledge our full load of talents. To the monumental task ahead—we declare ourselves ready, willing and able. To the threat of tremendous handicaps—we resolve that the job shall be done, with speed, economy, soundness and patriotism."

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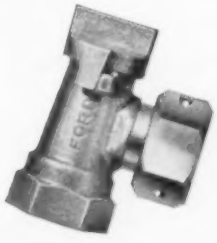

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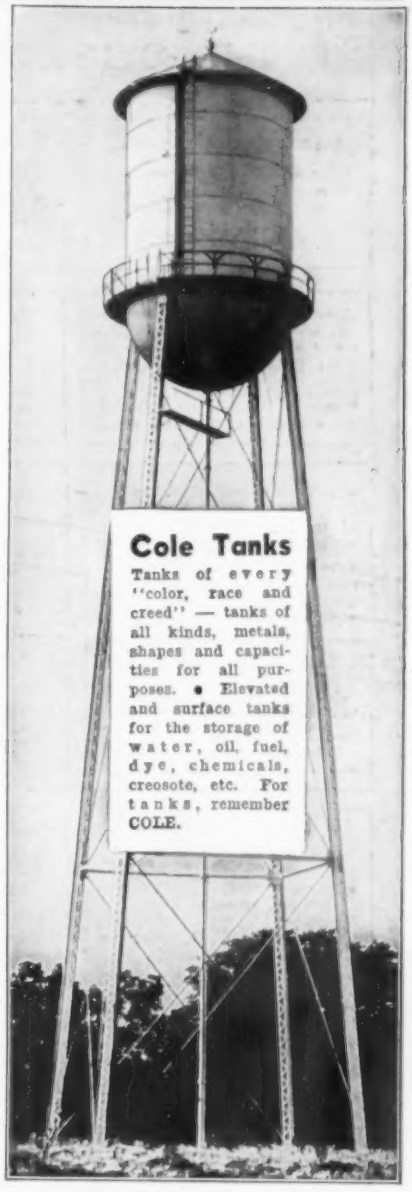

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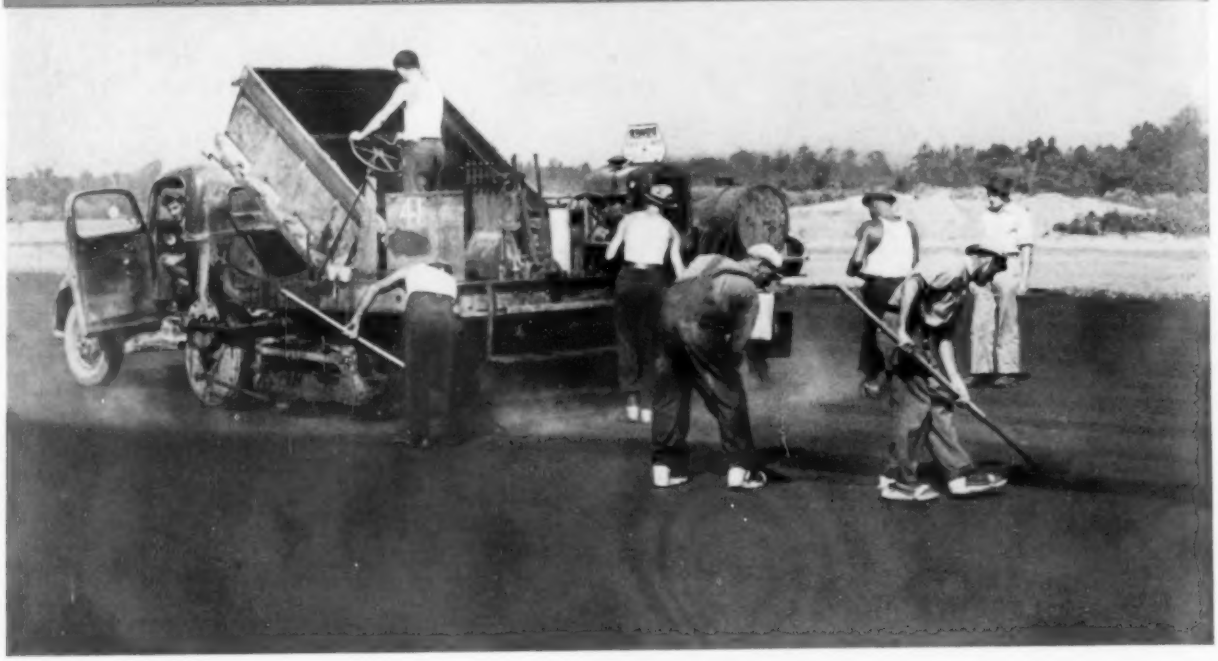

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Index to Contents, March, 1942

(The Annual Index to Contents appears at the back of the December issue each year)

Wartime Activities of Municipalities

Machines Account Salary Purchase of Bonds . . . 7
Cities, Comrades in Mobilization . . . 35
Conserving Municipal Vehicles, Tires, and Gasoline . . . 36
Priorities to Defense Housing . . . 36
Civilian Defense and Protection . . . 38
Conversion of Dwellings for War Housing . . . 39
What about Training? . . . 62
Planning the Post-War World . . . 67
Wartime Policies for Municipal Finance . . . 73
Remember Pearl Harbor, Hometown? . . . 73
New Rent Law Aid to Low-Income Families . . . 75
Protecting Assessment Records . . . 75
"Extra" Skills of City Employees . . . 75
Defense Procedure for Public Works . . . 77
$100,000,000 for Civilian Defense . . . 79
Restrictions on Federal Aid to New Local Public Works . . . 79
Abandoned Water Works Building Converted into an Air-Raid Shelter . . . 93
Birmingham Collects Scrap Metals . . . 93
Sandbag Barricades of Asphalt-Sand Mixtures . . . 95
"Ham" Radio Operators as Police . . . 95
Salvaging Abandoned Streetcar Rails . . . 95
A Reminder of World War I . . . 95
Intermunicipal Fire Protection Plans . . . 97
Mayor Broadcasts on Civilian Defense . . . 97
All the Cities Are in the War . . . 99
Civilian Defense Need Not Lag . . . 99
One-Man Pumps Extinguish Bombs . . . 101
Paints for Cities at War and Peace . . . 101
Sabotage of Municipal Facilities . . . 102
One Thought, One Hope, One Purpose . . . 102
Landscape Architects Merge for Duration . . . 113
Tire-Saving Booklet . . . 117
Air-Raid Sirens for Varying Conditions . . . 119
Sleeves Developed for Bombed Mains . . . 127

• • • —

Airports and Aviation
Aviation Plans for Chicago Region . . . 57

Bridges
Wheeling Bridge a Vital Need to City . . . 54
Design Competition . . . 127

Building Codes
Revising the Local Building Code . . . 59
New Federal Plumbing Standards . . . 60

Business Machines and Methods
Machines Account Salary Purchase of Bonds . . . 7
Central Tabulating, Detroit Department . . . 52
Billing Miami's Taxes . . . 56
Protecting Assessment Records . . . 75

City Manager Plan
City Manager Appointments . . . 79

Civilian Defense—See Wartime Activities of Municipalities, at top of page

Conventions
Conventions—When and Where . . . 113
Engineering Staff, THE AMERICAN CITY . . . 5

Finance and Taxation
Wartime Policies for Municipal Finance . . . 73
Tax-Reverted Land-Use Plan . . . 75
Bond Market . . . 79

Fire Prevention and Control
Painted Hydrants Help Fire Companies . . . 15
Fighting Pier Fires . . . 15
More Fire Insurance at Less Cost . . . 63
Intermunicipal Fire Protection Plans . . . 97
One-Man Pumpers Extinguish Bombs . . . 101

Gardens
A Reminder of World War I . . . 95

Health
Infectious Disease and Modern War . . . 13
Public Health Nursing Program, Dayton . . . 13
Sanitary Inspections in Greensboro . . . 13

Housing
Rehabilitation as a War Housing Measure . . . 37
Building Officials Warn Against Dangerous "Protection" . . . 38
Conversion of Dwellings for War Housing . . . 39
Elimination of Rural-Urban Slums . . . 43
Cities Can Apply New Federal Plumbing Standards . . . 60
Standards for Wartime Housing Projects . . . 61
National Housing Agency Established . . . 69
New Rent Law Aid to Low-Income Families . . . 75
Design Standards for Defense Housing . . . 103

Legal Decisions
Zoning and Planning Notes . . . 105

Libraries
Librarians Adopt Wartime Policy . . . 42

Lighting, Outdoor
Distinguished Boulevard Lighting . . . 87
Citizen Cooperation for Blacking Out . . . 89
Night Safety Bought Cheaply . . . 91
All-Out Street-Light Control Tested . . . 99

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Motor Equipment
Conserving Municipal Vehicles, Tires, and Gasoline . . . 35
Distinguished Boulevard Lighting . . . 87

News and Illustrations
Hints for Officials . . . 113

Parking Meters
$35 Per Month for New Parts for 1,908 Meters . . . 15

Parks and Recreation
Saving Private Recreation Areas for Permanent Public Use . . . 66

Planning and Zoning
Communities for Living . . . 44
Graphic Chart of Population Trends . . . 66
City Services Expanded Through Tax-Reverted Land-Use Plan . . . 75
Zoning and Planning Notes . . . 103
Legal Decisions . . . 105

Police
Solve Mystery of Forgiving Drivers . . . 7
"Ham" Radio Operators as Police . . . 95

Power Plants
Coffee Experiment Makes Better Diesels . . . 119

Publications
New Books and Pamphlets . . . 107

Public Relations
Win the Confidence of Reporters . . . 58
What About Training Volunteers . . . 62

Public Utilities
Utility Rate Adjustment Plan . . . 53

Public Works
Restrictions on Federal Aid to New Local Public Works . . . 79

Purchasing
I Sometimes Wonder What the Cities Buy . . . 7

Sewers and Sewage Disposal
New Small Sewage Plant Built . . . 11
Connecticut Joins Interstate Commission . . . 11
Sewage Statistics from Illinois Cities . . . 11
Elizabeth, N. J., Stops Pollution . . . 11
Treatment of Greensboro Sewage . . . 11
Sewage Plant Safeguards Water Supply . . . 46
Sewage-Treatment Plant, Nyack-on-Hudson . . . 77

Street Construction and Maintenance
Columbus Discovers New Street Program . . . 42
Asphalt Use Increases by 21 Per Cent . . . 115

Street Naming and Numbering
Capital's Street-Name System Extended . . . 55

Traffic Control and Facilitation
Free Parking Lots in Town . . . 7
Testing for Traffic Vibrations . . . 15
Brick Marker for Auto Traffic Lanes . . . 48
Non-Metal Traffic Signs . . . 77
War Transport Survey . . . 81

Transportation
Rejuvenated Streetcar Lines, Pittsburgh . . . 71
Make Local Transportation Efficient . . . 83
Transportation Speeded by Parking Meters . . . 83
Cooperation Will Speed Up Transportation . . . 85

Trees, Street
The Street Trees of Lansing, Michigan . . . 64

Water Supply and Purification
Government Outlines Procedure for Ordering Chlorine . . . 9
Management Studied by Water Works Men . . . 9
Show Features Water Works . . . 9
Chlorine and Compounds Available to Water Works . . . 9
Water-Works Defense Plans . . . 40
Sewage Plant Safeguards Water Supply . . . 46
Early Water Service Used Wooden Mains . . . 47
Shallow Lake Supply Supplemented by Wells . . . 50
Abandoned Water-Works Building Converted into an Air-Raid Shelter . . . 93
Self-Cleaning Strainer Relieves Filter Load . . . 121
Sleeves Developed for Bombed Mains . . . 127

See pp. 17, 18, 19, 107, 109, 111 for catalogs and publications on municipal and civic subjects

For Index to Advertisements see page 130